Municipal Infrastructure Development Plan

Nowapara Paurashava

May, 2008



Urban Governance and Infrastructure Improvement Project

Local Government Engineering Department (LGED)

Ministry of Local Government, Rural Development & Cooperatives



NOWAPARA PAURASHAVA

JESSORE, BANGLADESH

Completion Certificate

This is to certify that Municipal Infrastructure Development Plan with an Updated Land Use Plan of Nowapara Paurashava has been prepared by Town Planning Unit as per guideline provided by ADB assisted Urban Governance and Infrastructure Improvement Project (UGIIP) under Local Government Engineering Department (LGED). This plan has already been approved by Town Level Co-ordination Committee and Municipal Authority respectively.

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LIST OF ABBREVIATIONS

ADB Asian Development Bank

BMDF Bangladesh Municipal Development Fund

BBS Bangladesh Bureau of Statistics

BM Bench Mark

CBD Central Business District

DLRS Directorate of Land Records and Survey

DGPS Digital Geographic Positioning System

DMP Drainage Master Plan

DMDP Dhaka Metropolitan Development Plan

DTW Deep Tube Well

EIA Environmental Impact Assessment

EES Environmental Evaluation System

EIV Environmental Impact Value

GIS Geographic Information System

GPS Government Primary School

HTW Hand Tube Well

KDA Khulna Development Authority

LGED Local Government Engineering Department

LPCD Liters Per Capita Per Day

MIDP Municipal Infrastructure Development Plan

NGO Non Government Organization

PMO Project Management Office

PRAP Poverty Reduction Action Plan

STIDP Secondary Towns Infrastructure Development Project

SPAR Sub Project Appraisal Report

TPU Town Planning Unit

TLCC Town Level Coordination Committee

TOR Terms of Reference

UDD Urban Development Directorate

UGIIP Urban Governance and Infrastructure Improvement Project

UGIAP Urban Governance Improvement Action Plan

UMSU Urban Management Support Unit

Executive Summary

Urban population is increasing at an alarming rate. In 2001, the total urban population in Bangladesh was about 30 million, representing approximately 23% of the total population. With the increase of urban population the demand for urban infrastructure basic services have also been increased in many folds. It is established that physical improvement can't be sustained unless the underlying issues of governance are addressed properly. Preparation of Municipal Infrastructure Development Plan under Urban Governance and Infrastructure Improvement Project (UGIIP) is an outcome of this good governance concept.

The purpose of Nowapara Paurashava Development Plan is to prepare a plan framework that can help to the development authorities to guide future development and urban management. Financial issue is a major concern for infrastructure development. To overcome this problem, prioritization has been prepared. But before going to prioritization, the following two items was considered seriously -

- Resources allocation should be in correspondence with the social and economic benefits of the Pouro People.
- In the planning process choices have to be made by the decision maker, not by the planner.

Nowapara Paurashava "Municipal Infrastructure Development Plan with an updated Land Use Plan" not only addresses the short term needs or demands of infrastructure improvement but also it addresses the very long term needs that are forecasted by using appropriate planning tools. Hence, the Town Planning Unit of Nowapara should use it as the base of Nowapara Town Master Plan. Information and recommendations furnished herewith this report should be updated in every two years to make contemporary use of it. TPU should be strengthening by increasing its manpower.

MIDP may be fallen under different uncertainty regarding the risk management planning like reliability of data used, knowledge gap on problem identification, assumed weighting factor for EIA, unstable political situation and natural disaster.

1. Introduction

1.1 Background

Urban population is increasing at an alarming rate. In 2001, the total urban population in Bangladesh was about 30 million, representing approximately 23% of the total population. The current growth rate of urban population is 3.5%. This rate still much higher than the rate of growth of national population by 1.5%. With the increase of urban population the demand for urban infrastructure basic services have also been increased in many folds. It is established that physical improvement can't be sustained unless the underlying issues of governance are addressed properly. Urban Governance and Infrastructure Improvement Project (UGIIP) is an outcome of this concept.

The purpose of Nowapara Paurashava Development Plan is to prepare a plan framework that can help to the development authorities to guide future development. Municipal Infrastructure Development Plan (MIDP) ensures sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The available fund for a year is fraction of the requirement. To overcome this problem, prioritization has been prepared for construction works.

At present the following projects are going on at Nowapara Paurashava

- Urban Governance and Infrastructure Improvement Project (UGIIP)
- Bangladesh Municipal Development Fund (BMDF) Project
- Upazila Towns Infrastructure Development Project (UTIDP)
- Paurashava Funded Project

To integrate all of the development work from all sources, MIDP is essential.

Nowapara was established as a Paurashava in 1996 has an area of 25.11 sq.km divided into 9 wards. Now it is an "A" category Paurashava. It maintains an administrative role as Avoynagar Upazilla under Jessore District. The town is located about 300km south west of Dhaka and 32 km north of Khulna City Corporation (KCC). Beside this, Nowapara Paurashava is under the jurisdiction area of Khulna Development Authority (KDA). It has exceptional advantages that the Paurashava is blessed with a river named Bhairab on the east side and highway on the west side. The town is well connected with Dhaka by road.

The river connected with the Bay of Bengal and the highway links Mongla and Chittagong sea port, with Dhaka, the Capital of Bangladesh. It is an industrial as well as trading centre of Jessore District. Nowapara enjoys a unique position that any individual can go any where of the country by land, river, railway and even plane from the heart of the Paurashava whenever of the day and night he wants to. As per census 2001, the population is around 73,006 with the growth rate of 9.84%.

1.2 Objectives of MIDP

The objectives of the Municipal Infrastructure Development Plan are as follows:

- Provision of spatial framework for developing and expanding municipal services needed for the present and projected population living within the limits of the Paurashava.
- Provision of spatial allocation of lands in commensurate with socio-cultural and economic needs and expectations of the citizens in term of land use plan.
- Identification and prioritization of project proposals for implementation.

1.3 Methodology of MIDP

The guideline for preparing the MIDP with an updated Landuse plan was defined by the Project Management Office (PMO) of UGIIP. The plan has been prepared by the following guidelines.

Step 01: Introductory Activities

At the initial stage, a Town Planning Unit (TPU) was set up. A work plan was prepared to monitor day to day activities and measured the progress of MIDP. Necessary resources were mobilized through active participation of the Paurashava.

Step 02: Data Collection from Secondary Sources

Secondary data have been collected from different sources, such as Statistical Year Book of Bangladesh Bureau of Statistics (BBS), Community Series Report for Jessore District, Socio-economic / Benchmark Survey Report, Drainage Master Plan Report, Sub Project Appraisal Report (SPAR) and other Books and Journals.

Step 03 : Preparation of Base Map and Different Infrastructure Maps

The GIS Unit of LGED has provided necessary support for preparing the base map of the Paurashava. GIS Unit collected mouza maps from Directorate of Land Records and Survey (DLRS). The maps were digitized, geo-referenced and one mouza sheet was attached with another through edge matching. GIS Unit carried out DGPS Survey for preparing road network map and point features of the Paurashava. The map was finally corrected through field checking. Thus the Base Map of the Paurashava has been prepared.

Step 04: Infrastructure Data Collection, Inventorization and Computerization

Physical survey was carried out for collection of all necessary infrastructure data of the Paurashava. Computerization of the collected data continued simultaneously. All the infrastructure data have provided the basis of baseline information for preparing the MIDP.

Step 05: Preparation of Infrastructure Map

Nowapara Paurashava has been prepared a final base map with the assistance of GIS Unit of LGED. On the basis of final base map, the following infrastructure maps have been prepared.

Infrastructure Type	Мар Туре	
Road Network	Existing Map	Proposed Map
Drainage	Existing Map	Proposed Map
Water Supply Network	Existing Map	Proposed Map
Street Light	Existing Map	Proposed Map
Solid Waste	Existing Map	Proposed Map
Gas Network	Existing Map	Proposed Map
Telephone Network	Existing Map	Proposed Map
Electricity	Existing Map	Proposed Map
Land Use	Existing Map	Proposed Map

Step 06: Landuse Survey and Preparation of Landuse Map

A through landuse survey was carried out by using the mouza maps (RS Maps). Then the surveyed landuse information was plotted on the Base Map, and thus the Landuse Map was prepared.

Step 07: Public Participation

The MIDP has been discussed at Ward Committee, TLCC and Municipal Authority. Beside this, several meetings have been conducted with Khulna Development Authority (KDA).

Step 08: Conduct Different Studies

The following studies have conducted during the preparation of MIDP.

- Demography and Urbanization
- Housing
- Economy and Employment
- Development Control
- Environment
- Financial and Institutional Capabilities of the Paurashava

Step 09: Review of Previous Plans

Nowapara Paurashava is under the jurisdiction area of Khulna Development Authority. KDA prepared an infrastructure development plan and also a land use plan at 1995. A joint committee has been established between KDA and Paurashava to monitor any type of violation of KDA proposals at Paurashava area. TPU reviewed the KDA Master Plan and its proposals have been retained as it is in almost every case at Paurashava area.

Step 10: Analyses of Collected Data

Through analyses of the collected primary and secondary data have been carried out for identifying problematic cases and also the field of opportunities of the Paurashava. Then different alternative measures have been searched to solve the problems.

Step 11: Preparation of Proposed MIDP

The MIDP with an updated Landuse Plan has been prepared through rigorous analyses of all collected information, forecasted demand and through public participation.

1.4 Limitations of MIDP

Although the MIDP with an Updated Land Use Plan has been prepared very carefully, utilizing as much resources as possible, it is not beyond limitations. Some important limitations have been sited as follows –

- MIDP with an Updated Land Use Plan can never be termed as Master Plan as per the definition set by Dhaka Metropolitan Development Plan (DMDP) 1995.
- The plan would be completed within one and half year. This time is shorter than requirement for detailing a municipal level plan.
- The plan will effective for the next two years. MIDP needs to be revised at every two years.
- The prepared plan needs to be monitored closely by a professional planner, also needs to be revised if necessary on the basis of the monitored experience.

2. Overview of Nowapara Paurashava

2.1 Location and Landscape

The Municipality is situated on the bank of the river Bhairab that connects with Chitra river at its upstream and Rupsha at downstream and finally to the river Pashur which flows beside Mongla Port. The Municipal town is well connected with the southern region and the rest of the country by rail, road and river. Khulna-Jessore national highway passes through the municipality. The location of the Nowapara Paurashava with respect to Bangladesh is presented in Figure 2.1. The location of different Ward with respect to Paurashava is presented in Figure 2.2 and the base map of Nowapara Paurashava is given in Figure 2.3.

2.2 Area and Population

Nowapara Paurashava was established in 1996 and it has an area of around 25.11 sq.km. As per census 2001, the population of the Paurashava is around 73,006 with a high growth rate of 9.84%. The future estimated population is presented in Table 2.1 and existing ward wise population and area are presented in Table 2.2.

Table 2.1: Population forecasting for Nowapara Paurashava

Year	Population	Remarks
1991	65,701	Census
2001	73,006	Census
2007	84,665	Projection
2010	91,174	Projection
2015	1,03,156	Projection
2020	1,16,711	Projection
2025	1,32,048	Projection
2027	1,38,733	Projection

Source:

- i) Bangladesh Bureau of Statistics for 1991 and 2001
- ii) Population Projection for 2007 to 2027 by the Population Projection Formula of $P_n = Po * (1+r)^n$

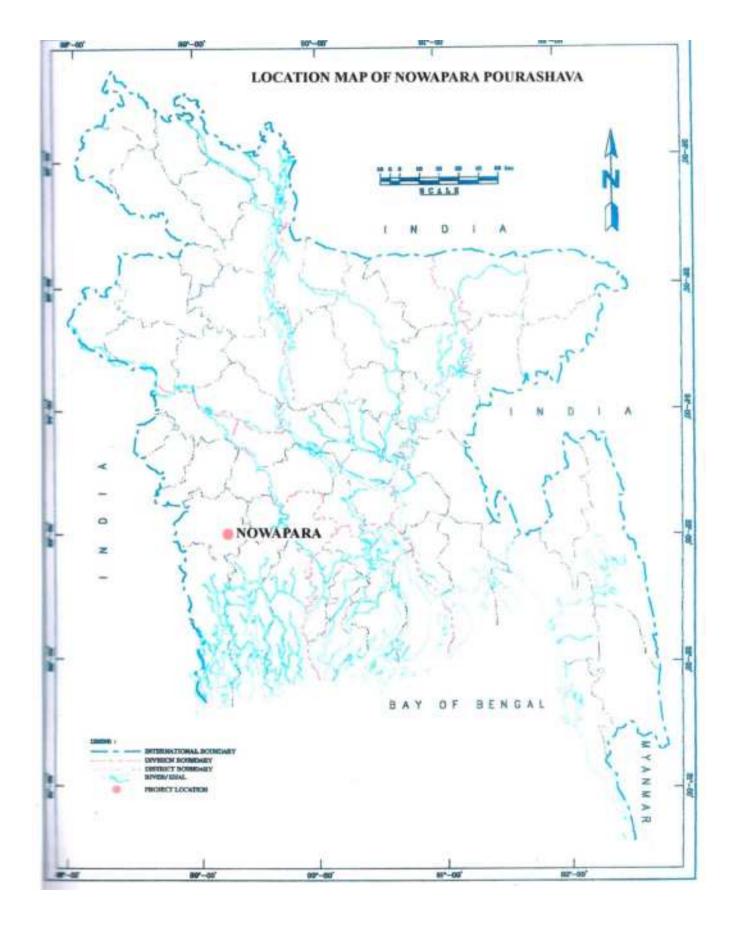


Figure 2.1 : Location of Nowapara Paurashava (Source : Town Planning Unit, 2007)

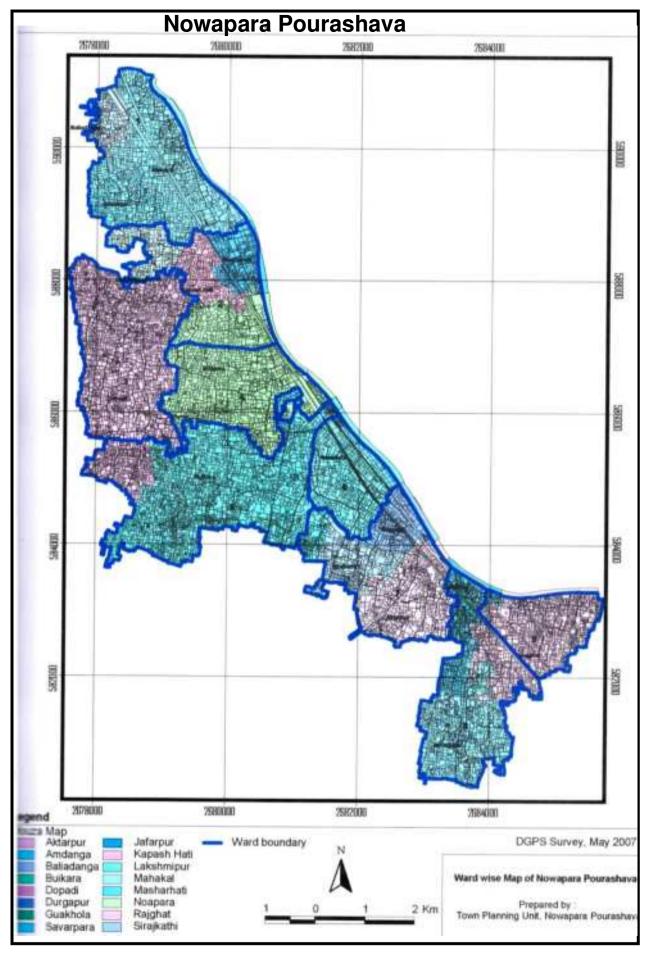


Figure 2.2: Location of Paurashava Ward

(Source: Town Planning Unit, 2007)

The map is available in the attach folder

Figure 2.3: Base Map of Nowapara Paurashava

(Source: Town Planning Unit, 2007)

Table 2.2: Existing area and population for different wards

Ward No	Area	Population		
	(sq.km)	Male	Female	Total
1	4.71	3,943	3,555	7,498
2	1.79	2,686	2,367	5,053
3	4.39	3,612	3,477	7,089
4	3.60	6,167	5,588	11,755
5	3.09	6,286	6,157	12,443
6	1.69	4,793	3,962	8,755
7	2.55	3,192	2,986	6,178
8	0.83	3,062	2,659	5,721
9	2.46	4,757	3,757	8,514
Total	25.11	38,498	34,508	73006

(Source: BBS, 2001)

2.3 Land Use pattern

The existing Paurashava area is 25.11 sq.km. The service facilities of the Paurashava are mainly concentrated in the core area. Land use patterns indicate that 45% of the land is utilized for residential, 19% for commercial and industrial purposes and 25% agriculture. It is expected that with urbanization, land use must be changed with time to come.

2.4 Climate

Nowapara enjoys a tropical monsoon type of climate where mean annual rainfall is 1723 mm and annual mean temperature is about 25.68°C. The climate of Paurashava is moderate. The mean monthly maximum temperature is observed during the month of May where it attains 29.7°C and monthly minimum temperature occurs in January when it is about 17.4°C. Summer begins from April and continues till August. Monsoon normally starts from April and continues up to October. The annual mean rainfall is 1723 mm of which the maximum mean monthly rainfall is about 334 mm which occurs in July. The mean monthly temperature and rainfall of Nowapara Paurashava are presented in Table 2.3. The mean monthly rainfall of Nowapara Paurashava is given in Figure 2.4.

Table 2.3: Mean Monthly Rainfall and Temperature of Nowapara Paurashava

Month	Rainfall (mm)	Temperature (0°C)
January	12	17.4
February	19	21.4
March	52	26.0
April	68	29.1
May	169	29.7
June	324	29.3
July	334	28.8
August	261	28.8
September	275	28.5
October	162	27.0
November	39	23.2
December	8	18.9
Total	1723	Av 25.7

Source: Drainage Master Plan of Nowapara Paurashava, 2007

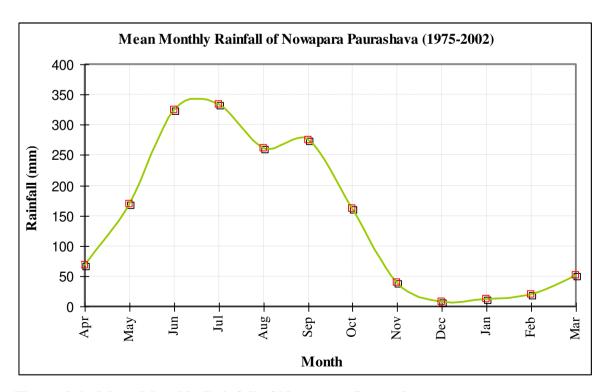


Figure 2.4: Mean Monthly Rainfall of Nowapara Paurashava

(Source: Drainage Master Plan of Nowapara Paurashava, 2007)

2.5 Topography

Nowapara Paurashava area is more or less uniform. In the vicinity of Nowapara Paurashava, there is one river namely Bhairab which is flowing from North-West to South-East. The topography survey has been carried out by the consultant's Survey Team and the maximum and minimum RL of the Paurashava is found to be 7.13 and 5.52 respectively and the average land elevation of the Paurashava is reported to be 6.32. There exists small number of unsanitary pools, ditches and filth within the Paurashava. The above mentioned depression serves as catchment basin and help in reducing the flood intensity and also mitigate the flood damages during and after heavy rainfall in the monsoon period.

2.6 Potentiality of the Paurashava

The Municipality is situated on the bank of the river Bhairab that connects with Chitra river at its upstream and Rupsha at downstream and finally to the river Pashur which flows beside Mongla Port. The Municipal town is well connected with the southern region and the rest of the country by rail, road and river. Khulna-Jessore national highway passes through the municipality. Nowapara is well known for trade and commerce especially for fertilizer, cement, and textile business. The municipality serves as a collection & distribution center of different types of goods. There are 4 Jute Mills, 5 Fertilizer Factory, 9 Cement Factory, one Leather Processing Industry and an exceptional training & research center for jute cultivation. It has a remarkable historical background dating from the 18th century when many saints & spiritual persons came to this area to propagate Islam and to establish peace in this region.

2.7 River and Khal System

In Nowapara Paurashava, there is one river namely Bhairab river which is flowing from north-west to south east. Beside this, there are also two khals namely Amdanga and Vaboda khal. The Amdanga khal originating from Bhairab river outfalls into Bhabata Beel, The Bhabadaha khal starting from Beel Zickra outfall into Teka River.

2.8 Ecological Resources

Livestock exists throughout the Paurashava, including cow and goat herds of various sizes, according to domestic and commercial ownership. There are no formally maintained bird

sanctuaries, but birds do habitat the many natural watercourses of the Paurashava during seasonal migration. Fisheries are conducted on a small scale in a number of locations, utilizing small sized ponds. Many species of trees occur, in variable numbers, on small holdings and roadsides throughout the Paurashava with many mango orchards found in a number of locations. The Paurashava does not have any significant wildlife presence or any rare and endangered species of note.

2.9 Urban Environment

The environment component includes water-logging, solid wastes, pit latrine, slums, market and open excreta of unauthorized dwellers in the Nowapara Paurashava. Air pollution is quite a serious environmental consideration, with emissions from vehicle exhausts having adverse impacts. Surface water resources include several khals and ponds, mainly prominent from recharge during the rainy season. Groundwater sources are available in abundance with cases of unacceptable levels of arsenic trace contamination being recorded. The geology of the area comprises of recently developed plain formation, generally of a reddish dull color with unconsolidated sediments. The Paurashava has no fixed solid waste disposal site of its own.

2.10 Historical Background and Tourist Spots

Avoynagar, the smallest Upazila of Jessore Zila in respect of area, came into existence on the 16th March, 1875. It is learnt that the Upazila was named it Avoynagar after the name of Abhaya Rani who got the ownership of this Taluk as a gift from her father Raja Protapadittya. There are hardly any archeological and cultural sites in the Paurashava except some Mosque, Educational Institutions, Library, Cinema Hall and Government Offices. The following sites have been found as Historical Site of this Paurashava:

- Pir Bari
- Hujur Bari at Jaforpur
- Nowapara Rail Station

3. Review of Previous Master Plan

3.1 Introduction

Nowapara was established as a Paurashava at 1996 and no Master Plan has been prepared for it as other Master Plan was prepared for different Paurashava's by Urban Development Directorate (UDD) at 1991. But a Master Plan for Khulna City was prepared by Khulna Development Authority (KDA), Ministry of Housing and Public Works, Government of the People's Republic of Bangladesh at 2001. Aqua-Sheltech Consortium provided consultancy services to prepare the Master Plan. Nowapara Paurashava is under the jurisdiction area of KDA.

3.2 Planning Principles Adopted

The following planning principles are adopted for KDA Master Plan

- achieving efficiency to maximize economic development, employment and environmental benefits at the city as well as neighborhood level and to minimize the use of scarce natural and financial resources.
- achieving equity through the development and planning which offer sufficient benefits to the poor and low-income people.
- minimizing costs of infrastructure development and maximizing the usage of infrastructure and facilities.
- ensuring sustainability in urban forms and development spatial plans.

3.3 Duration of the Plan

KDA Master Plan comprises four components. The title of components and their duration are given below.

Volume I : Khulna Urban Strategy (2001-2020)

Volume II : Khulna Urban Structure (2001-2020)

Volume III : Khulna Master Plan (2001-2010)

Volume IV : Detailed Area Plan

3.4 Area and Population

KDA Master Plan received number of population from census for 1981-1991 and preparation of projection for 1998-2020. The planning zone no. 10 (Nowapara Paurashava) of KDA Master Plan comprises an area of 6772.60 acres or 27.42 sq.km. The census and projected population of Nowapara in KDA Master Plan are given below.

Table 3.1: Actual and Projected Population in KDA Master Plan of Nowapara

Year	Population	
1981	55,219	A
1991	69,868	Actual
1998	89,265	
2000	35,164	
2005	43,166	Proj
2010	53,521	Projected
2015	65,041	
2020	78,652	

Source: KDA Master Plan, 2002

As per census 2001, the population of the Paurashava is around 73,006 with a high growth rate of 9.84%.

3.5 Planning and Development Issues

Nowapara township is growing along with industrialization in a haphazard manner. Among the industries, several jute mills, textile mills, cement factory, salt industry and a good number of warehouses are important. The major planning issues are given below

- The area is fast growing and thus immediate planning interventions are necessary.
- Physical infrastructure is inadequate.
- Residential areas of this new township did not grow as urban residential areas.
- Recreation facilities are seriously lacking.
- Slums and squatters settlements are growing.

3.6 Major Development Proposals

The Master Plan has taken care of the anticipated population growth and has assessed the implications of such growth to the physical and built environment. Considering the population, service demand and environmental issues, the following projects seem to be strongly relevant to population growth and environmental issues:

Development Type	Location
Industrial Area	Vanga Gate Area, Bengal Textile Mills Area, Rajghat-
	Jaforpur Area
Commercial Area	Both side of Jessore-Khulna Highway
Bypass Road	Mohakal to Shiromony
Forest Area	Along the Bypass
Road Widening	At different roads
Bus Terminal	At Buinkora
Truck Terminal	Opposite Side of Thana Office
Residential Area	Professor Para, Upazilla Area, Rajghat Area
Town Centre	West side of Hospital Road
Ghat and Gudam	Along the River Side

The Master Plan recommends an area of 350 acres on the bank of the Bhairab for new industries. For localization of industries in the northern and southern part of the Master Plan it would be better not to allow further industries on the southern part of the township around the existing ones. Business establishments should be allowed with proper control and management of on road development so that they do not disrupt normal traffic flow on road.

3.7 Opportunity and Limitations

3.7.1 Opportunities

The following benefits may be obtained by Nowapara Paurashava, if it follows KDA Master Plan.

- Adequate Residential Area
- Reduces the traffic jam

- Reduces the water logging problem
- Increase the recreational facilities like park, playing field and others
- Increase the job opportunities for Poura People
- Increase the Poura revenue
- KDA and Paurashava jointly work done for planning and development activities

3.7.2 Limitations

KDA Master Plan is not beyond of limitations for Nowapara Paurashava. The following constraints are found for KDA Master Plan to implement at Nowapara Paurashava.

- Absence of Reserve Land for Future Development
- Location of Proposed Truck Terminal is already build up with industry
- Absence of direction of Paurashava Expansion
- Inadequate Graveyard and Slaughter House are shown
- Avoid the area of flooding
- Avoid the potential land for agricultural development

4. Sector Studies

4.1 Introduction

Decision has been made to conduct studies on demography and urbanization, economy and employment, development control, housing, environment, financial and institutional capabilities of Paurashava during the preparation of MIDP. As MIDP contains another chapter regarding environment, so detail descriptions for environment are provides in Chapter 11.

4.2 Demography and Urbanization

Population is projected using under the following formula:

$$Pn = Po (1+r)^n$$

Where:

Pn = The population of target year

Po = The population of base year

r = Annual growth rate

n = Time period

Population Characteristics

According to population census 2001, Nowapara Paurashava covers an area of 25.11 sq. km. It includes 9 wards of its jurisdiction areas. The Nowapara Paurashava has a population of 73,006 of which 38,498 are male and 34,508 are females. The sex ratio of the Paurashava is 112 males per 100 females in 2001.

Table 4.1: Population of different Paurashavas of Jessore District, 2001

Paurashava Name	Area	Population	Density
			(per sq. km)
Abhaynagar	25.11	73,006	2907
Jhikorgachha	9.42	27,834	2955
Jessore	14.72	1,76,655	12001
Manirampur	17.64	19,313	1095

Source: BBS, 2001

Area and Population

The total area of Nowapara Paurashava is 25.11 sq.km. As per census 2001, the population of the Paurashava is around 73,006 with a high growth rate of 9.84%. The Ward wise population and area are presented in Table 4.2.

Table 4.2: Existing area and population for different wards

Ward No	Area	Population		
	(sq.km)	Male	Female	Total
1	4.71	3,943	3,555	7,498
2	1.79	2,686	2,367	5,053
3	4.39	3,612	3,477	7,089
4	3.60	6,167	5,588	11,755
5	3.09	6,286	6,157	12,443
6	1.69	4,793	3,962	8,755
7	2.55	3,192	2,986	6,178
8	0.83	3,062	2,659	5,721
9	2.46	4,757	3,757	8,514
Total	25.11	38,498	34,508	73006

(Source: BBS, 2001)

From the above Table, the highest and lowest population are found in Ward no 5 and Ward no 2 respectively.

Sex Ratio and Education Status

All the wards in the municipal area are not equally literate and have not same sex ratio. The Sex Ratio and Education Status of Nowapara Paurashava are presented in Table 4.3.

Table 4.3: Sex Ratio and Education Status of Nowapara Paurashava

Ward No	Sex Ratio	Literacy Rate (7+years)
1	111	61.76
2	113	56.51
3	104	50.33
4	110	57.00

Total	112	60.14
9	126	71.72
8	115	59.77
7	106	57.44
6	120	59.75
5	102	62.87

(Source: BBS, 2001)

The above Table shows that Ward no 9 has the highest literacy rate and also the highest figure for sex ratio. It should be mention here that as a periphery ward no 1, received the third position for literacy rate.

Economic Activities

In Nowapara Paurashava, major sources of income are employment, construction, business, non-agricultural labor etc. The distribution of economic activities are presented in Table 4.4.

Table 4.4: Distribution on Economic Activities of Nowapara Paurashava

Type of Activities	Population (%)
Employment	31.35
Construction	2.56
Rent and remittance	0.95
Religious service	0.22
Business	21.45
Non-agricultural labor	7.62
Transport and communication	6.67
Industry	3.52
Other	25.66
Total	100

(Source: BBS, 2001)

The above Table shows that occupation as business and employment acquired the highest ranking among others.

Migration

The density of population in the Paurashava area is increasing significantly. The major migrants are from rural areas to Paurashava areas. The main reasons are industries located at the Poura area, infrastructure development, schooling and health facilities etc. in the Paurashava area. Apart from that, every year, some migrations happen from outside Paurashava township areas to Paurashava township areas.

Urbanization in Bangladesh

Table 4.5 gives the trend of urban growth in Bangladesh. The large number of urban population since 1981 is due to the definitional change of urban area in those censuses. The high urban growth rate from 1974 through 2001 was due to the extended definition of urban area in 1981. The urban population has increased from 2.4 per cent in 1901 to 23.1 percent in 2001.

Table 4.5: Urbanization in Bangladesh, 1901-2001

Census	Total	Urban	Percent		Exponential
year	population	population	urban	Variation	growth rate
1901	28,928,000	702,035	2.43	-	-
1911	31,555,000	807,024	2.56	14.95	1.39
1921	33,254,000	878,480	2.64	8.85	0.85
1931	35,604,000	1,073,489	3.02	22.20	2.00
1941	41,997,000	1,537,244	3.66	43.20	3.59
1951	42,063,000	1,819,773	4.33	18.38	1.69
1961	50,840,000	2,640,726	5.19	45.11	3.72
1974	71,479,000	6,273,602	8.78	137.57	6.66
1981	87,120,000	13,228,163	15.18	110.85	10.66
1991	106,314,000	20,872,204	19.63	57.79	4.56
2001	123,851,120	28,605,200	23.10	37.05	3.15

Source: BBS, 2001

Urbanization in Nowapara Paurashava

Table 4.6 shows that the level of urbanization for Nowapara Paurashava is increasing. With increasing of urbanization, the importance of town is also increasing. The distribution of urban population are presented in Table 4.6.

Table 4.6: Urbanization in Nowapara Paurashava, 1991-2007

Year	Total Population of	Urban Population	Urban Population
	Anhaynagar		(%)
1991	2,04,654	28,547	13.95
2001	2,32,162	73,006	31.45
2007	2,50,424	84,665	33.80

Source: BBS, 2001 and Projection

With the unplanned urbanization, Nowapara Paurashava would be faced the following difficulties.

- Environmental consequences
- Encroachment of productive agricultural land
- Extreme pressure on housing, growth of slums and the pressure on urban services
- Economic consequences, leading to income inequality and poverty
- Social consequences, resulting in increased violence, crime, and social degradation

4.3 Economy and Employment

Economic Aspect

Business and trading are the main economic activities of the Paurashava people. Poor people are mostly engaged in the informal sector such as day labor. Agriculture is an important sector of employment and economic activity. In addition the town has a good range of small scale manufacturing and service enterprises. There are 11 branches of both state and private owned banks. These bank branches mostly transact credit for trading, commerce and agriculture. Income and economic status of the people has improved in the recent times, due to agricultural activities, mostly consisting of marketing for nearby areas. The town is growing and, as a result, business in construction materials is also strong.

Water way, rail and roadways link is considered to have contributed to the establishment of many large and medium scale industries in the area. Nowapara is well known for trade and commerce especially for fertilizer, cement, and textile business. There are 04 Jute Mills, 05 Fertilizer Factories, 09 Cement Factories, 01 Leather Processing Industry, 01 Mobil Manufacturing Plant, 02 Cotton Mills and an exceptional Training and Research centre for jute cultivation. It has a remarkable historical background dating from the 18th Century when many saints and spiritual persons came to this area to propagate Islam and to establish peace in this region.

Working NGOs

At present, many NGOs are working in Nowapara. The name of working NGOs are ASHA, BRAC, BKS, PSS, BIVA etc. These NGOs are organizing and educating poor and destitute women, developing social awareness and livelihood skills and providing credit for income generation.

Employment Aspect

In Nowapara Paurashava area, main sources of income are employment (31.35%), construction (2.56%), rent and remittance (0.95%), religious service (0.22%), business (21.45%), non-agricultural labor (7.62%), transportation and communication (6.67%), industry (3.52) and others (25.66%).

4.4 Development Control

Definition of Development

The carrying out of building, engineering, mining or other operations in, on, over or under land, or the making of any material change in the use of any buildings or other land.

Definition of Development Control

Development Control is the process of dealing with applications from individuals and companies which are required to ensure that any development which takes place is in accordance with the City Plan, and is carried out in the best interests of the general public and the area in which the development is proposed. Development control is the process, laid down in legislation, which regulates the development and use of land and buildings.

4.4.1 Way of Development Control

A combination of incentives, legal framework and restriction may be applied to enforce development control.

Incentives

There could be various incentives to encourage development as per Master Plan as-

- Easier loan to develop the planned area (join program with house building finance).
- Quicker infrastructure development by the Paurashava for neighborhoods who agree to develop land under an approved Guided Land Development.
- Easier than normal planning restrictions may be adopted for large area development by private sector.
- Amount of fund approval or release based on performance of plan implementation.

Legal Framework

It is necessary to control and guide all kinds of development with appropriate regulations. The present land use and building construction regulations are not adequate for the present day requirements. In addition, all these regulations are seldom used by the Paurashava mostly because of lack of trained personnel. Preparation of land use plan therefore, must

be matched by appropriate urban land use legislation directed to fulfill the objective of the plan. The existing available legal framework relating to building and land use control are given below.

- Building Construction Act 1952
- Town Improvement Act 1953
- Paurashava Ordinance 1977
- Environment Conservation Act 1995
- Building Construction Rules 1996
- Play field, open space, garden and natural water bodies conservation act, 2000
- Private Residential Land Development Rules 2004

Restriction

Must Conform to Master Plan

- Development plan approval must conform to the plan and as per legal framework.
- Development must be monitored and any violations must be challenged and corrected without comprising because of pressure from to or corruption.

Must Conform to Land Use Plan

- Land must be reserved for the development of infrastructure at a later date as per the plan.
- More importantly land must be reserved for the major road network that has been identified in the land use plan. These roads can be demarcated specifying the width defining the right of way. These demarcated land must be reserved and protected by prohibiting any development in the area.
- The land may be acquired through compulsory purchases by the Paurashava or related organizations. In order to effective implementation the most important prerequisite is the enhancement of institutional capacity of the Paurashava.

Urban Land Policy

 In the recommended housing area private development with smaller plot size should be recommended.

- Ensure assess of land to most of the people with appropriate standards for housing areas.
- Facilitate provision of land for infrastructure provision at an appropriate standard affordable for the residential neighborhood.
- Ensure that environmental and natural quality is being preserved during development.
- Urban land ownership should be restricted to the minimum. Therefore, a ceiling on urban land ownership may be framed.

4.4.2 Development Control in Nowapara Paurashava

Nowapara Paurashava exercises development control function as per provisions laid down in the East Bangal Building Construction Act, 1952 and its subsequent amendments and the Rules & By-laws framed there under. Every construction/erection/excavation within the jurisdiction of Nowapara Paurashava requires permission/approval from the Paurashava Town Planner.

Any type of building construction, housing, commercial, industrial and whatsoever need planning permission and they must be in conformity with the land use provision of Master Plan of Khulna Development Authority (KDA). Building as defined in the existing building Construction Rules includes a home, hut, wall and any other structure where masonry bricks, corrugated iron sheet, metal, tires, wood, bamboo, muds, leaves, grass, thatch or any other materials whatsoever are used.

The Rules are updated time to time as per requirements. At present Town Planning Unit (TPU) headed by the Executive Engineer, is responsible for all the activities regarding Development Control, in which the Town Planner has been working as Member-Secretary for the Unit.

4.5 Housing

National Housing Authority defined a house as a pucca or semi-pucca unit of dwelling that can accommodate an average household. Housing is one of the basic needs after food and clothing. It provides shelter, safety and a sense of belonging to the owner. It also provides privacy, promotes health & comforts and provides a basis for employment and income generation. Moreover, a planned and well designed house provides a favorable environment for human resource development.

Housing Land and Density

Nowapara Paurashava was established in 1996. Presently, it is an "A" Category Paurashava. The area of the Paurashava is 25.11 sq km and its population is 84,665 (2007). Nowapara Paurashava clarified the total holdings are 11,486 (2007-2008). Nowapara Paurashava comprises two distinct physical characters like urban and semi-urban. As a result the housing types also differ in these two regions. CBD area and its surroundings observed in urban housing and fringe area are mixed housing. In urban area the housing lots are big and structures are compactly built, while in fringe area the structures are sparsely built covering a wider area which makes the density very low.

Pucca Housing Area

Pucca housing areas are covered by Ward No. 4,5,6 and 7. Maximum 4 storied pucca buildings are observed in the Poura area. A large number of single and double storied buildings are located in the above mention wards.

Semi Pucca Housing Area

Except the CBD area and its surroundings of the town covered by Ward No. 1,2,3,8,9 are mixed use areas or semi pucca housing of various ranges.

Mess Housing

Single housing or locally known as mess are the places of residence for workers and the students who come to towns either for work or study and stay there single for a longer time away from their families. From the eastern and western part, a few number of workers and students come to the town and they live in the messes.

Planned Housing Areas

Planned housing areas are absent in Nowapara Paurashava. Due to availability of better civic facilities and peaceful environment, planned residential areas may be accommodated in near future. At present some housing society are taking preparation to construct some planned residential area in Nowapara Paurashava.

Population Density

According to population census 1991 and 2001, the population density of Nowapara Paurashava are presented in Table 4.7.

Table 4.7: Population Density of Nowapara Paurashava

Year	Population	Density (per sq.km)
1991	65,701	2,616
2001	73,006	2,907

Source: BBS (2001), Community Series, Jessore District

Housing Type Based on Construction

Table 4.8 shows the type of construction in the Nowapara Paurashava area ascertained from Bangladesh Bureau of Statistics. It is found that buildings in the Nowapara Paurashava area is dominated by kutcha structures (42%) followed by semi-pucca structures (31%).

Table 4.8: Type of Housing Construction in Nowapara Paurashava

Type of Construction	No of Houses (%)
Pucca	18.34
Semi-Pucca	31.86
Kutcha	42.59
Jhupri	7.21
Total	100

Source: BBS (2001)

Land Value

Due to scarce supply of land against increasing demand from rising urban population, land value in Paurashava area is on constant rise. Rise in urban land value is determined not only by the rate of urban population increase but also by increase in household income, development of infrastructure, location, etc. Land value of Nowapara Paurashava is given in Table 4.9.

Table 4.9: Land Value of Nowapara Paurashava

Land Type	Per Decimal	Per Decimal Value in Tk		
	Minimum	Maximum		
Presently				
Residential Land	10,000	200,000		
Commercial Land	100,000	500,000		
Five Years Back				
Residential Land	5,000	100,000		
Commercial Land	50,000	250,000		

Source: Bench Mark Survey (2007)

Housing Need Assessment

The housing need assessment process comprises three main components:

Growth of New Households

Growth of new households comes from two sources, creation of new families out of existing population and arrival of new household through migration.

Shortage of Existing Dwelling Units

This shortage is reflected by higher density, owner crowding in existing dwelling and sharing of dwellings.

Replacement of Old and Dilapidated Dwelling Units

Every year a part of the existing housing units were out that need replacement or upgrading

Table 4.10: Housing Need of Nowapara Paurashava, 2001

Total Households	16,692
Total Dwelling Units	14,189
Housing Backlog	2,503
Replacement	2,837
Extra Need	5,340

Source: BBS, 2001 (for total household)

Nowapara Paurashava was established in 1996. It has only household data for 2001. Table 4.10 shows that within Paurashava Area the number of total households (2001) stood at 16,692, while the total housing units were 14,189 which give a backlog of 2,503 units. It is evident from the table that by the year 2001 these will be a need of 5,340 dwelling units in Nowapara Paurashava. Replacement of dwelling units has been estimated at 17-20 percent annually.

Role of KDA for Housing Development Program

The standard provisions and policies should be equally applied for public sector housing agencies as well. Existing building control regulations strictly executed, with minor amendments, can adequately address the problems of haphazard growth. Khulna Development Authority has been taken an initiative to develop a well organized housing area at Professor Para, Upazila Area and Rajghat Area.

4.6 Initial Environmental Examination (IEE)

Physical Resources

Air pollution is quite a serious environmental consideration, with emissions from vehicle exhausts, of particularly old and poorly maintained buses and trucks, having adverse impacts within many parts of the town. Surface water resources include several khals and ponds, mainly prominent from recharge during the rainy season. The Paurashava generally remains very dry during the remaining periods of the year. Groundwater sources are available in abundance with cases of unacceptable levels of arsenic trace contamination being recorded. The geology of the area comprises of recently developed plain formation, generally of a reddish dull color with unconsolidated sediments. The winter season takes place from November to February, with a mean minimum temperature of 14°C, a mean maximum of 26°C and a monthly average of 18°C. Rainfall during the winter is very low, with January being the driest month. The summer season takes place from March to May, with May being the hottest month, having a temperature of 32°C average. The monsoon rainy season takes place from June to October. The mean annual rainfall ranges from 2000 to 2300 mm. Severe storms, including cyclones and tornados, may occur during April/May and October/November periods of the year. The area falls within the earthquake zone II, having a basic seismic co-efficient close to 0.15.

Ecological Resources

Livestock exists throughout the Paurashava, including cow and goat herds of various sizes, according to domestic and commercial ownership. There are no formally maintained bird sanctuaries, but birds do habitat the many natural watercourses of the Paurashava during seasonal migration. Fisheries are conducted on a small scale in a number of locations, utilizing small sized ponds. Many species of trees occur, in variable numbers, on small holdings and roadsides throughout the Paurashava with many mango orchards found in a number of locations. The Paurashava does not have any significant wildlife presence or any rare and endangered species of note.

Economic Development

Business and trading is the main economic activity of the Paurashava population. Poor people mostly are engaged in the informal sector such as day labourer. Agriculture is an

important sector of employment and economic activity. In addition the town has a good range of small scale manufacturing and service enterprises. There are 11 branches of both state and private owned banks. These branches mostly transact credit for trading, commerce and agriculture. Income and economic status of the people has improved in the recent times, due to agricultural activities, mostly consisting of marketing for nearby areas. The Paurashava supports large scale retailing of agricultural inputs and outputs. The town is growing and, as a result, business in construction materials is also strong.

Social and Cultural Resources

The Paurashava has a population of 73,006 inhabitants and 16,692 household as per census 2001. Most of the people are engaged in business activities, small scale business and daily labor. The town is neat and well disciplined. There are a number of hospitals and health clinic located in the town. As industries in Nowapara are more, jobs opportunities for the poorer factions of people are sufficient. However, the locality is strong in business activities and the market for all associated products is considered good. Villagers from afar, and nearby, come to Nowapara to sell their products, much of which are transported to bigger towns by truck. The river erosion by the River Bhairab is not serious problem. Nowapara has an important site for developing tourism, The majority of the population is Muslim, with many mosques found within the town. There are a few non-regular drama groups who perform theatre occasionally. There is only one cinema hall in the town and a auditorium where drama staged.

Identified Negative Impacts and Possible Mitigation Measures

Possible mitigation measures for the negative impacts related to waste of leather processing industry, liquid waste from Textile industry, construction of Slaughter House, Sound Pollution, wood burning, storage of construction materials, establishment of Poultry and Dairy firms are presented below.

Negative Impacts	Possible mitigation measures
Waste from Leather Processing Industry	Immediate steps should be taken for
	establishment of Effluent Treatment Plant
	(ETP)
Liquid waste from Textile Industry	Immediate actions should be taken for

	establishment of Treatment Plant (TP)
Absence of Slaughter House	Actions should be taken for availability of
	Slaughter House
Sound Pollution	Bill Board can be set up. Community Police /
	Paura Police can handle this.
Wood burning at Brick Field	Available Law would be applied
Open storage of construction materials	Restricted area would be declared for this
	type of activities
Establishment of Poultry firm, Dairy	License s should be taken from Paurashava
firm	and located at a far distance from residential
	areas

4.7 Financial and Institutional Capabilities of the Paurashava

Financial aspect of a municipal authority is the main issue to its sustainability that refers to the income and expenditure capacity of the organization, which is supported by the institutional support. In a municipal authority various institutional units would work to achieve different programs and issues related to financial and other social and economic goals. For instance, TPU, TLCC and other various committees are functioning in different Paurashavas to support and achieve different programs. Institutional bodies are structures and mechanisms of social order and cooperation governing the behavior or activities of two or more individuals directly or indirectly related to the aspects of municipal services, activities and governance as well.

Financial Aspects

Simply financial aspects of a municipal authority refer to its income and expenditure and activities that are related to income and expenditure. Generally, income refers to revenue of the Paurashava from different sources exist in the Paurashava jurisdiction, annual development funds that sanction from the central government, aid or grants from other local or foreign sources and so on. Conversely, expenditure refers remuneration of the Chairman and ward commissioners, remuneration of Paurashava staffs and workers, project implementation and O&M costs, service and institutional support costs, and other costs. The major sources of income and expenditure of a Paurashava are listed below.

Sl No	Income Sources	Sl No	Expenditure Sources
1	Property Tax	1	General establishment cost
	Holding Tax		(remuneration / salary, etc.)
	Water Tax		
	Other Tax (Immovable		
	property transfer tax,		
	advertisement tax, etc.)		
2	Property Leases	2	Education and training support
3	Property rentals	3	Health and sanitation
4	Fees and Charges	4	Tax collection cost (register, form

			print, etc.)
5	Other operating income (Sale	5	Plantation and Maintenance
	of tender schedule, water re-		
	connection etc.)		
6	Non-Operating Revenue	6	Social events and religious donation
	(donation etc.)		/ costs
7	Financial Income (Income on	7	Land development tax
	investment)		
8	Government sanction other	8	Audit expenditure
	than development sanctions		
9	Equipment rent (road roller,	9	Legal and case expenditure
	etc)		
10	Other Non-operating income	10	National day celebration and
	(gain on foreign exchange		program arrangement
	fluctuation, etc.)		
		11	Cultural and sports expenditure
		12	Emergency relief for disaster
		12	Excess revenue transfer in
			development expenditure
		14	Utility services maintenance,
			operations, and other related costs
		15	Infrastructure development,
			operational and maintenance
		16	Hat/bazar development
		17	Vehicle terminal maintenance
		18	Other construction (Construction of
			market, etc.)
		19	Park and open space development,
			maintenance etc.
		20	Payment against debt
		21	Various investment
		22	Other expenditure

All these income and expenditure is shaped by an annual budget, which is usually moderated (where required) and passed by institutional support, i.e. budget is placed in TLCC meeting for discussion, modification and approval through a systematic process.

Institutional Aspects

Hence, institutional aspects refer different institutional existence, support and services to the Paurashava. Common and essential institutional supports to a Paurashava would include:

- School and Training support for general educational purpose and technical training, small-cottage, agricultural production and local livelihood.
- Community hospital/clinic for municipal basic health service
- Local Market System development of local market system can able to develop regional trade, which will influence directly the municipal economy and regional economy as well.
- Participatory program big gathering would deliver awareness to the local citizen in the field of tax, trade license, environmental and sanitation, against social crime etc.
- Traffic management.

The social and community services that are listed above are important to the Paurashava to its financial and institutional sustainability. Without provision of these services municipal inhabitants will not be interested for their tax and other payment to the municipality. Institutional capability would refer to the capacity to provide institutional support to the target group/groups and the capacity of the institutions itself. Thus, qualified and skilled manpower is required in both the institutions and Paurashava as an organization

Financial and Institutional Capability

As per project demand and Govt circular, Nowapara Paurashava has been set up some committee related to financial and institutional capabilities. Committee or institutions that are supporting different issues related to financial events of Nowapara Paurashava are given in Table 4.11.

Table 4.11: List of committees that provide institutional support to the Paurashava

Sl No	Name of Committee
1	Audit and Accounts Committee
2	Financial and Establishment Committee
3	Financial Sub-Committee
4	Tax Sub-Committee
5	Khash Collection Committee
6	Shop Allocation Committee
7	Tax Review Committee
8	Town Level Co-Ordination Committee
9	Ward Level Committee

Institutions or committees are responsible to execute some selected tasks that are listed as TOR with each committee formation method and that is supplied either by the central government or by the LGED and other international technical assistance organization. Moreover, to sustain the financial capability of Nowapara Paurashava, regular performance review of both the members of the committees and related Paurashava personnel are an essential. For this regard, some basic elements of good governance are also must:

- Confirmation of participation
- Institutional accountability, i.e. accountability of members of different committees and the concern section-personnel of the Paurashava
- Transparency of activities, both for the committee activities and the Paurashava personnel
- Accessibility to Paurashava governing body (chairman and commissioners) and Paurashava personnel
- Institutional and personnel responsiveness
- Rule of law-every function would follow the established method and policy

Recommendations for Financial and Institutional capability

The sustainability of financial and institutional capability of Nowapara Paurashava requires proper tasks implementation, monitoring and good governance. As Urban

Governance and Infrastructure Improvement Project is performing a set of activities that cover the essential events stated above, this is easy to achieve the sustainability of financial and institutional capacity. List bellow would be followed for the same achievement.

- Specific Vision
- A complete and practical annual budget-considering local social, economic and political condition
- Sector-wise work plan
- Skilled and trained personnel require to implement work-plan
- Identify new sources and techniques for more revenue
- Transparency of monitoring and implementation of projects and activities
- Planned and shaped expenditure of other expenses
- Through awareness local people could be interested and participate directly to the development process and tax and fees payment as well
- Easy system to the citizens like one stop service would be introduced
- Inter-sectional coordination, proper direction, supervision and monitoring

If Nowapara Paurashava could follow and achieve the above attributes through proper urban governance / good governance then the day is not so far that Nowapara Paurashava has the financial and institutional capability and will sustain as well.

5. Transportation Planning and Management

5.1 Introduction

A Benchmark survey has been conducted with the help of Urban Governance and Infrastructure Improvement Project (UGIIP) for Nowapara Paurashava. With the help of UMSU, TPU conducted an intensive survey on existing road network. Already it has been computerized. TPU arranged nine (9) Ward Committee meeting during July to December 2007 for receiving proposals regarding transportation planning from Ward Committee Members.

Nowapara Paurashava does not have any Bus Terminal or Truck Terminal. Also this can be the source of revenue collection, if it is constructed. A bypass road would be constructed along the Paurashava boundary by the KDA. Modes of transport of passenger traffic are bus, rickshaw, tempo, van, bi-cycle and Motor Cycle. Many of course walk on foot, particularly where it is short distance. The time taken for traveling depends on the time of movement (peak / non-peak hour), traffic jam, distance and mode of transport. If it is rickshaw, then it takes Tk. 5-7 per km. On the other hand, if it is tempo, then the cost remains on the lower side, but if it is bus, then the cost becomes lesser.

5.2 Road Network

5.2.1 Existing Condition of Road Network

Khulna-Jessore national highway passes through the municipality. It appears that most of the administrative, civic, commercial and other important urban amenities and utility services providing agencies make room for their establishments / development along the major roads, thus guide the growth and shape form and structure of the town. The roads also provide right of way for utility services and other physical infrastructure networks. Total length of road of all types in Nowapara Paurashava is 175.75 km. In the Central Business District area, many roads have not sufficient spaces for widening or construction of a new drains or entering a ambulance. The existing conditions of road network are presented in Figure 5.1. The existing road network lengths are presented in Table 5.1 and existing surface condition of Road Network are presented in Table 5.2.

The map is available in the attach folder

Figure 5.1: Existing Road Network of Nowapara Paurashava

(Source: GIS Unit, LGED, 2007)

Table 5.1: Existing condition of Road Network

Ward No	Total Length		
Walu 110	Km	%	
01	21.28	12.11	
02	12.84	7.31	
03	29.18	16.60	
04	16.00	9.10	
05	21.28	12.11	
06	16.88	9.60	
07	18.70	10.64	
08	19.82	11.28	
09	19.77	11.25	
Total	175.75 km	100.00	

Source: TPU, 2007

In the Paurashava area, if it is on foot, it takes 15 to 20 minutes to walk one km, but if it is by rickshaw/rickshaw van, it takes 5 to 7 minutes, depending on traffic jam. Traveling by bus/bi-cycle/motor cycle takes lesser time than the above modes of transport.

Table 5.2: Existing Surface condition of road network

Ward No	Metalloid (km)	Brick (km)	Earthen (km)	Total (km)
1	4.37	5.15	11.76	21.28
2	0.49	5.07	7.28	12.84
3	6.87	3.09	19.22	29.18
4	3.52	3.54	8.94	16.00
5	5.81	4.50	10.97	21.28
6	8.27	4.93	3.68	16.88
7	4.89	4.85	8.96	18.70
8	3.87	5.96	9.99	19.82
9	13.21	4.58	1.98	19.77
Total	51.30	41.67	82.78	175.75

The above table reveals that the total road is 175.75 km of which 51.30 km is metalloid, 41.67 km is brick soled and 82.78 km is earthen.

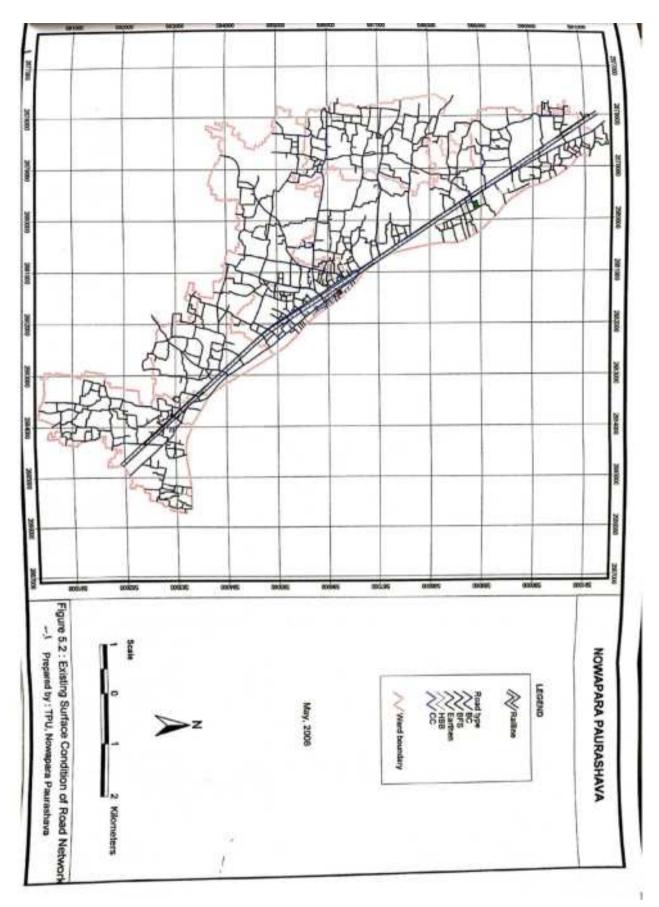


Figure 5.2 : Existing Surface Condition of Road Network

(Source : TPU, 2007)

5.2.2 Problem of Road Network

The traffic of Jessore-Khulna Road at Nowapara is worse mainly due to lack of proper management and absence of Bus and Truck Terminal. Traffic rules should be strictly enforced and violations must be penalized. Many roads do not have sufficient space for movement of vehicles, pedestrians and construction of surface drains. Unplanned housing did not keep enough provision for roads. Footpaths are necessary to construct at all main roads for safe walking of the pedestrians.

5.2.3 Road Network Improvement Proposals

TPU arranged nine (9) Ward Committee meeting during July-December 2007 for receiving proposals of Road Network from Ward Committee Members. The proposed road network improvement proposals from Ward Committee, TLCC and Municipal Authority are given below:

Ward No -01

From	Via	То
Mun vata of J-K Road	Mistri Para	BMDF Road
Female Commissioner's House	Katrik Master House	Dhan Road
at Amdanga		
Female Commissioner's House	Link Darir Par	Dhan Road
at Amdanga		
01 No Ward Commissioner		Abdul Aziz House
House MSP Road		

Ward No -02

From	Via	То	
J-K Road	Oddut Sheikh House	BMDF Road	
J-K Road	Latif Mulla Mill	BMDF Road	
J-K Road	Dr. Julfikkar House	BMDF Road	
Nowapara Jute Mill at Masor		Rahim Saheb Godown (with	
Hati		drain)	
Saroer House at Masor Hati		Sidlay Textile	
J-K Road Sajadur's Nursery	Kapashati	MSP road at Lakshmipur	
Lakshmipur MSP road at Guffer		Dhopadi Daprori Para	
Biswas House			

Ward No -03

From	Via	То	
Ulu Bottola BC Road	Nurani Madrasa	Mulla Para Mosque and link	
Dhopadi Nutun Bazar	Babu Kazir Gher	Dumur Tola BS Road	
Dhopadi end of Betar road chowrasta	Daptori Para	Paurashava end	
Betar road	Latif Mulla House	Chara tola road (BMDF)	

Ward No -04

From	Via	То
Rest part of North Bengal Road		
Link road at Bengal Gate		Model School
Lutfor Sardar House		Rana Vata
Shah Jalal Nursery		Bhuiyan Bari

Ward No -05

From	Via	To
Buinkara East para GPS	Sarkhola GPS	Dhopadi Link road
Simul toil Road		
Buinkora Municipal Graveyard		Dr. Akram Ali House
Provati Jubo Sangha		Mosque (UGIIP road)
Implementing UGIIP road		Last border of Sarkhola
Hamidul Shop at Mosihati Road		Farque Commissioner's House
Rana Vata at Sundoli Road	Pora Bari	Mosihati Road

Ward No -06

From	Via	То
Girls' School Road		
Jessore Khulna National	Girls' School Road	MSP road connecting Hospital
Highway Link Back side of		road
Girls School road		
Noorbag-Monirumpur	Model School	Girls' School Road
connecting road		

Ward No -07

From	Via	То
College road	Nurani Madrasa	Tuntuni's Shop
J-K road mile post		Masid's Chatal at Taltola
Seraj Tarofdar House at		Hasem Shop at Seraj Khati
Akterpur		
Sikder Para BMDF Road		Ahad Cement and Mile post link
		road
Akij Jute Mill Link Road		Seraj Khati School

Ward No -08

From	Via	То
BMDF Road		Khristan Para
Mile post at Link road		Gajipur Pir Bari
Bas tola of Gajipur		MSP road Sardar Bari and BMDF Mour.

Ward No -09

From	Via	То
Muallem tola old Commissioner	Old Khea Ghat	BMDF Road
House		

The proposed Road Networks of Nowapara Paurashava are presented in Figure 5.3.

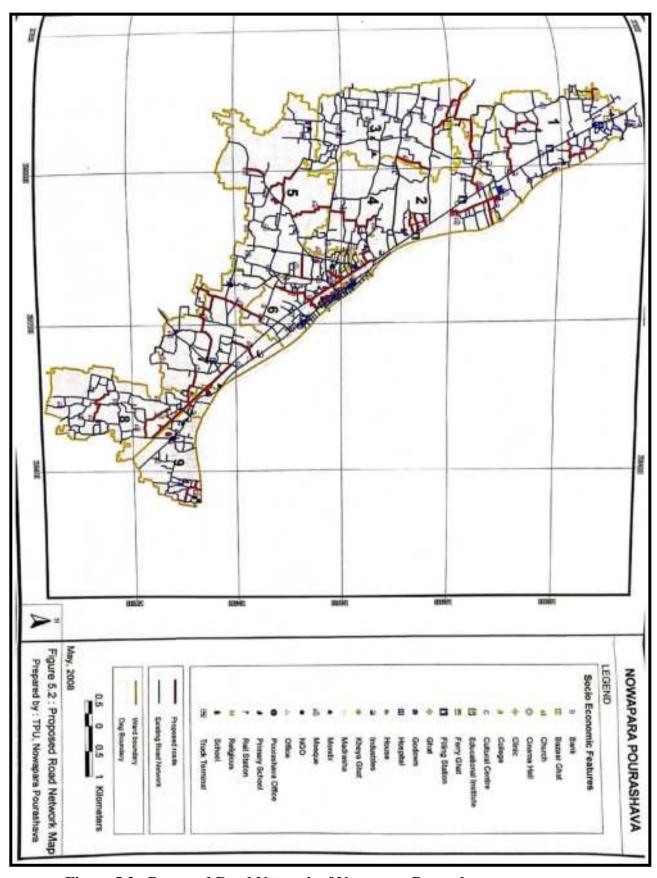


Figure 5.3: Proposed Road Network of Nowapara Paurashava

(Source : TPU, 2007)

Proposed Road for Footpath

- Girls' School Road
- Jessore-Khulna High Way Police Fari to Nowapara Pir Bari Mosque (Both Side)
 with drain

Proposed Road for Widening

- Girls' School Road
- Shimul Toli Road
- From Link Road Bengle Textile Gate to Model College

5.3 Bridges / Culverts

5.3.1 Existing Condition of Bridges / Culverts

There are no bridges, but there are 57 culverts in the Paurashava area. The length of all the culverts is 0.788 km. Out of the total culverts lengths, 0.182 km is in good condition and the rest is in bad condition. The distribution of culverts are presented in Table 5.2.

Table 5.3: Distribution of Culverts of Nowapara Paurashava

Ward No	No	Length (km)	Con	dition
waru 140	140	Length (km)	Good	Bad
1	8	0.099	0.032	0.067
2	3	0.022	0.017	0.005
3	4	0.068	0.016	0.052
4	5	0.054	0.029	0.025
5	8	0.095	0.027	0.068
6	8	0.207	0.022	0.185
7	8	0.074	0.000	0.074
8	8	0.069	0.000	0.069
9	5	0.100	0.039	0.061
Total	57	0.788	0.182	0.606

Source: TPU, 2007

5.3.2 Problem of Bridges / Culverts

Some culverts are out of dated. It should be reconstructed.

5.3.3 Bridges / Culverts Improvement Proposals

Culverts would be constructed considering the location of drain and water flow. Proposals for Bridges / culverts is that construction works would be initiated as per guideline in the Drainage Master Plan of Nowapara Paurashava.

5.4 Waterway Network

5.4.1 Existing Condition of Waterway Network

The Municipality is situated on the bank of the river Bhairab that connects with Chitra river at its upstream and Rupsha at downstream and finally to the river Pashur which flows beside Mongla Port. There is a river port named as Nowapara River Port situated at poura area. Also there is a ferry that passes vehicle from one side to another.

5.4.2 Problem of Waterway Network

It is mentioned earlier that Nowapara Paurashava is famous with its industrial and commercial activities. That's why stone, coal, sand and gypsum are stored on the bank of the river and finally it is stored at the riverbed during rainy season and due to wind blowing.

5.4.3 Waterway Network Improvement Proposals

Proposals for waterway is that proper care should be taken to protect the encroachment of river bank and remove the stored stone, coal, sand and gypsum from the bank of the river as early as possible.

5.5 Railway Network

5.5.1 Existing Condition of Railway Network

The Municipal town is well connected with the southern region and the rest of the country by rail, road and river. A railway line passes through the municipality. Two stations i.e. Nowapara and Changutia are situated within the Paurashava. Town dwellers received the opportunity from Nowapara Rail station for both human and goods carrier. The rail station bhaban of Nowapara is newly constructed.

5.5.2 Problem of Railway Network

The railway line of Nowapara crossed the Jessore-Khulna Highway at several points. But gate and gateman are provided at very few points. It is risky situation for the passengers.

5.5.3 Railway Network Improvement Proposals

Proposals for waterway is that gate and gateman should be available at the following points.

- Nur Bagh Gate
- Women college road
- Gajipur road at Ghora Bottola
- Taltola
- Mile post
- Vanga Gate Truck Terminal
- Changutia at Rothkhola

5.6 Transportation Management

- Existing pour major roads to be widened keeping provision of footpath and drainage.
- Paurashava should have sub-committee to exclusively look after road development and maintenance.
- Unplanned housing did not keep enough provision for roads. Set back rules should be strictly enforced.
- This Paurashava is a business oriented area and there is a great demand for an improvement road network within the Paurashava.
- Community police can be appointed at the congested point of major roads
- Service road (locally known as link road) should be completed, maintained, provide footpath and drainage provision.
- Newly developed road should be maintained its width properly.

6. Drainage Planning and Management

6.1 Introduction

A Drainage Master Plan (DMP) has been prepared with the help of Urban Governance and Infrastructure Improvement Project (UGIIP) for Nowapara Paurashava. Town Planning Unit (TPU) helped to prepare this. For preparation of drainage component of this Master Plan, TPU accepted the given proposals of Drainage Master Plan. With the help of UMSU, TPU conducted an intensive survey on existing drainage condition. Already it has been computerized. TPU arranged nine (9) Ward Committee meeting during July-December 2007 for receiving drainage proposals from Ward Committee Members. TPU conducted with TLCC members to receive proposals regarding Master Plan.

Nowapara Paurashava covers an area of 25.11 sq.km with population of 73,006 as per census 2001. Most of the area (about 45%) is used for residential purpose. The climate of Paurashava is moderate. The mean monthly maximum temperature is observed during the month of May where it attains 29.7°C and monthly minimum temperature occurs in January when it is about 17.4°C.

6.2 Existing Drainage Network and Outfalls

In Nowapara Paurashava, there is one river namely Bhairab river which is flowing from north-west to south-east. Beside this, there are also two khals namely Amdanga and Vaboda khal. The Amdanga khal originating from Bhairab river outfalls into Bhabata Beel. The Bhabadaha khal starting from Beel Zickra outfall into Teka River. It may be mention here that the 60% discharge from Nowapara is directed to outfall into Bhairab river and 30% discharge is directed to outfall into Railway borrow pit and 10% discharge is directed into Vaboda and Amdanga khal.

There is no danger of flood water intrusion into Nowapara Paurashava as the ground level of Nowapara Paurashava is higher than the high tide level of Bhairab River. In addition, there are some pond and ditches, which have no outlets. In the proposed Drainage Master Plan (DMP), all these factors have been considered with proper attention.

With the help of RMSU, TPU arranged an intensive survey on existing drainage condition. Already data have been computerized in EXCEL format. A summary of collected data is given in Table 6.1. The existing drainage conditions of Nowapara Paurashava are presented in Figure 6.1.

Table 6.1: Summary of existing drainage condition of Nowapara Paurashava

Ward No	Length (km)
01	5.60
02	1.65
03	1.51
04	1.47
05	1.16
06	7.73
07	2.53
08	5.77
09	5.20
Total	32.62

Source: Town Planning Unit (2007)

6.3 Flooding and Water Logging Situation

Inundation occurs due to localized storm rainfall and also due to other causes affecting drainage system within Nowapara Paurashava. External flood is not likely to occur in the study area since the flood level of Bhairab river is lower than the elevation of Nowapara Paurashava. During peak monsoon period, only internal flow occurs at some specific areas within the Paurashava and cause water logging.

The following are the water logging areas such as Balia Danga, A.R. Cement Mill Site, Himalay Cement Mill site, Mokka Cement Mill Road site, Akterpur, Taltola, Sirajkathi, Nowapara College area, Sorkhola, Sabujbag, Sardarpara, Nowapara Model Girls Primary School, Dhopadi, Laxmipur, Nowapara Main Bazar, Kapashati and Vangagate Bazar Area. The inundation spots are estimated to be of 725 ha. Depth of maximum inundation ranges from 0.50 to 0.55 meter and duration from 15 to 20 hours from place to place.

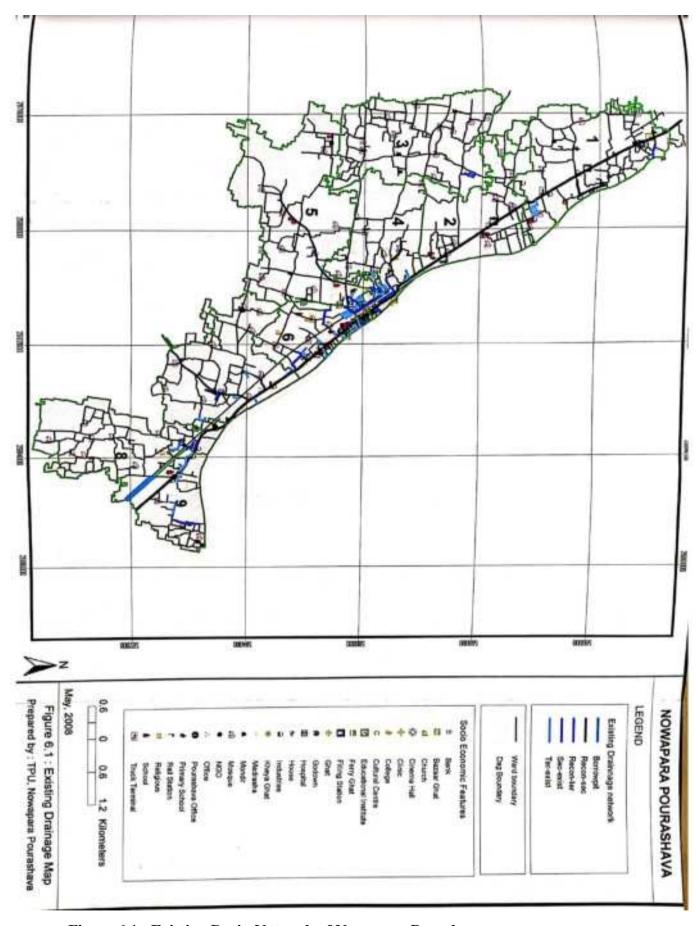


Figure 6.1: Existing Drain Network of Nowapara Pouashava

(Source: GIS Unit, LGED, 2007)

Localized flooding occurs during and after heavy rainfalls, causing inconvenience to Paurashava residents and spreading water borne diseases. The study area is not likely to be affected by external flood from Bhairab river during rainy season.

The primary causes for water logging are as follows:

- Absence of network based drainage system
- Blockings in the existing drains due to throung of garbage into drains
- Absence of integrated network of secondary drains and road side drains
- Failure to preserve "right of way" for drains by Nowapara Paurashava
- Uncontrolled and haphazard disposal of solid waste into the drainage system
- Lack of timely operation and maintenance program.

6.4 Main Problems of Existing Drainage System

Drainage facilities have not been provided with the growing urbanization and expansion of Paurashava as per requirements. With increase of population, other additional infrastructures have not been provided. As a result, efficient and quick drainage of Rainfall Runoff into their outfall is not taking place. Moreover, indiscriminate disposal of all types of solid waste is minimizing the flow capacity of existing drains. The existing tertiary drains and newly proposed primary, secondary and tertiary drains need to be planned and constructed for efficient and quick discharge of storm water to the outfall. Areas experiencing water logging cause damage to roads which create problems in social life and increase health risks and spread water borne disease within the Paurashava. Nowapara Paurashava has no fixed solid waste disposal site of its own.

6.5 Drains Network Improvement Proposals

TPU arranged nine (9) Ward Committee meeting during July-December 2007 for receiving drainage proposals from Ward Committee Members. The proposed drains network improvement proposals from Ward Committee, TLCC and Municipal Authority are given below:

Ward No: 01

From	Via	То
A.R. Cement Mill		Mokka Cement Mill
Changutia Bazar		Bhairab River
Vanga Gate	SIDLAY	Bhairab River

Ward No: 02

From	Via	То
Rail Line Culvert at Mosorhati		Bhairab River
Odud Sheikh House		Kazi Bablu House
Along J-K Road, North Bengal		Dr. Julfikkar House and link
Road		to River

Ward No: 04

From	Via	То
Ayub Sardar House		Mat (North Bengal Road)
Bengal Rail Gate	Tatul Tola Mosque	Nursery
Bobin Factory		Rebeka Newaj House
4 No Ward Last Boundary	Torikul's House	Poultry

Ward No: 05

From	Via	То
Jago Babur Mour	Ad. Abdul Hamid House	Boal Mari Khal
Al Helal School	Jago Babur House	Boyal Mari Main Darin
Drain Beside Hospital Road		
Baby Pharmacy		Simultoli Road

Ward No: 06

From	Via	То
WAPDA Road Drain		Principal Golam Mustafa House at Alyea
		Road
Adarsa Para		Link Road
Depok Bosti		Girls' College Road
Rest part of Boal Mari Drain		

Monirampur Road	Girls' School along Link Road
Computer Little School	Boalmary canal rest part
Noorbag road	Noorbag primary drain
Guakhola Monowar house Darus	Siraj mia ponds Guakhola road
Salam Mosque culvert	
Darus Salam Mosque culvert	South side of girls school road up to girls school
	corner
Opposite side of 6 no. ward	Railway culvert with link road culvert
commissioner house	
Monirumpur road	Girls School along link road

Ward No: 07

From	Via	To
Taltola Jame Mosque		J-K Road Culvert

Ward No: 08

From	Via	То
In front of Ahad Mill		Gazipur Sardar Para BMDF Road

Ward No: 09

From	Via	To
North Side of Rajghat Saheb Para BMDF Road		

The proposed drains network plan of Nowapara Paurashava are presented in Figure 6.1. Through the Total Station Survey, five (5) Bench Mark has been established within the Nowapara Paurashava. The description of BM are given in Table 6.2

Table 6.2: Position of BM at Nowapara Paurashava

BM No	Easting	Northing	Height or	Location
	(m)	(m)	RL (m)	
1	2682077.04	585266.01	7.134	Kept on the North-West corner of
1	2002077.04	363200.01	7.134	Paurashava Compound
2	2684453.97	582769.98	5.779	Kept in front of Rajghat Jafarpur Girls
2	2004433.71	302107.70	3.117	High School, Rajghat
3	2678425.48	590862.71	5.526	Kept on the North-East corner of
3	2070423.40	390002.71	3.320	Mohakal High School at Changutia
4	2678646.29	585928.86	6.281	Kept in front of Dhopadi High School
	2070040.29	303720.00	0.201	at Dhopadi
5 2681632	2681632.83	1632.83 583825.31	6.816	Kept on West side of Noorani Madrasa
	2001032.03 303023	303023.31		near graveyard at Sirajkathi

Source: Total Station Survey, 2007

6.6 Recommendations of TPU

- Non structural measures like awareness, papering, can play a vital role in this regard.
- The existing drainage systems are very poor. An effective drainage system needs to have established covering all the wards.
- The drains must not be connected with septic tank and be cleaned up regularly by Paurashava.
- Pouro Authority should give priority for drains as given for road.

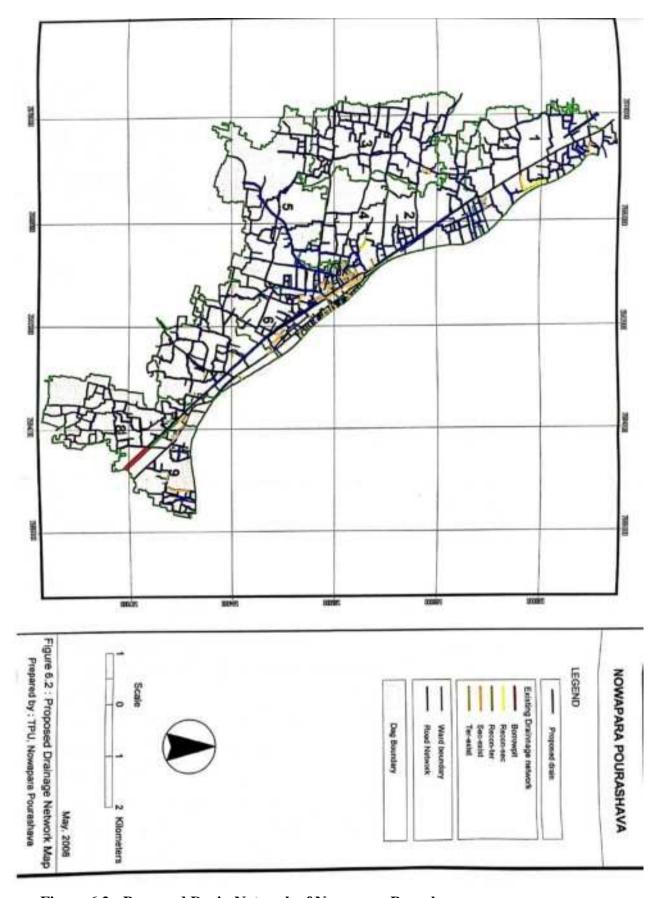


Figure 6.2: Proposed Drain Network of Nowapara Pouashava

(Source : GIS Unit, LGED, 2007)

7. Social and Community Services Plan

7.1 Introduction

Planned social and community services is pre-requisite of planned development of the poura area. It appears that most of the administrative, civic, commercial and other important urban amenities and utility services providing agencies make room for their establishments / development along the major roads. And thus guide the growth and shape form and structure of the town. The roads also provide right of way for utility services and other physical infrastructure networks. TPU arranged nine (9) Ward Committee meeting during July-December 2007 for receiving proposals for social and community services from Ward Committee Members. Also a Town Level Co-ordination Committee (TLCC) meeting was arranged to receive proposals regarding MIDP from the town dwellers.

7.2 Education Facilities

7.2.1 Existing Literacy and Educational Institution

Education facilities of Nowapara Paurashava area is developed. According to the demand of the beneficiaries, with the assistance of UGIIP, four satellite schools have been established in Paurashava Slum area. The target students of the schools will be the dropped out children from the schools or those who never go to the school. Dhopadi SS College, Nowapara Model College, Nowapara College, Nowapara Women College are situated in Paurashava area. Beside this, adequate number of high School, Junior high School, Primary School, Kinder Garten and Madrasa are available in Poura area. The overall literacy rate of Paurashava is 60% (BBS, 2001).

7.2.2 Education Improvement Proposals

At present, Paurashava has been started with 4 primary school to provide service in education sector. More primary and pre-primary school can be established for the welfare of Paurashava poor children. Special priority can be given to construct road network for better education facilities.

7.3 Health Facilities

7.3.1 Existing Health Condition and Health Facilities

At present, Upazila Health complex, Aroggo Sadan Hospital, Shishu Hospital, Fatema Hospital & Diagnostic Centre, Nowapara Surgical Clinic, Doctor's Clinic, Rajghat Family Welfare Centre, Paribarik Shasto Clinic (PKS) and Ad-Din Hospital are situated in Nowapara Paurashava area. Bench Mark survey (2007) stated that infant mortality rate in the Paurashava area is 54 per thousand and Maternal mortality rate is 05 per thousand.

7.3.2 Health Facilities Improvement Proposals

Nowapara Paurashava has a Medical Section but the Position of Medical Officer is vacant for a long time. If Paurashava can arrange necessary environment, Medical Officer would continue his job at Paurashava level. Paurashava needs to emphasize upon improving their health and sanitation drives to ensure better health status of the Paurashava people. Proper care should be taken on clinical waste.

7.4 Market and Shopping Facilities

7.4.1 Existing Market and Shopping Facilities

At present, no shopping mall or shopping complex is situated in Nowapara Paurashava area. The owners/ Paurashava clean the kitchen markets.

7.4.2 Market and Shopping Facilities Improvement Proposals

A Town Centre was proposed at the west side of Hospital road by KDA. But at present, it is almost impossible to construct the Town Centre at this location due to existing structures. Decisions have been made to re-construct the existing kitchen market and construct a new kitchen market at Changutia Bazar. It would be the source of income for Paurashava.

7.5 Open Space, Recreational Facilities & Historical Sites

7.5.1 Existing Recreational Facilities

Recreation facility is very important for the town dwellers. There is no park or children in the Municipal area. As per census 2001, the population of Paurashava is 73,006 with the growth rate of 9.84%. So a recreational place is essential for the Poura people. Nowapara Pir bari and Gajipur Hujir bari are the famous historical places within Nowapara Paurashava

7.5.2 Recreational Facilities Improvement Proposals

Recreation facility is an important indicator for the city life. A decision has been taken to set up a children park at PWD area of Ward no-06.

7.6 Social Welfare Facilities

7.6.1 Existing Social Welfare Facilities

Social well fare service is very important for development of a town. In Nowapara Paurashava area, some private organizations provide social facilities to the orphanage. In this respect, three leading organizations are Pir bari Madrasa, Gajipur Roufia Madrasa and Dhopadi Mohila Madrasa near Bangladesh radio. Nowapara Institute library is giving service to people for reading the daily news paper, nobles and other books.

7.6.2 Social Welfare Facilities Improvement Proposals

For human being social welfare facility is an essential indicator. For the poura people, it is essential to improve the social welfare facilities. The Paurashava should take necessary steps for improving the orphanage where the poor boys are getting social service facilities. The Paurashava should allocate special fund in its budget. The Paurashava should also allocate some fund for the non-government Socio-cultural organization for enhancing their services.

7.7 Postal Services

7.7.1 Existing Postal Facility

The upazilla post office of Avoynagar is located near the Ferry Ghat. Different offices and people are getting facilities from post office. Beside this, there is a sub-post office at Changutia Bazar and Rajghat.

7.7.2 Postal Facility Improvement Proposals

The postal service of Nowapara Paurashava is well organized. So no proposal is needed.

7.8 Telecommunication Facilities

7.8.1 Existing Telecommunication Facilities

Tele communication is important for modern daily life. The BTTB digital exchange office of Nowapara is located just front side of Paurashava office bhaban. Beside this, there 16 mobile tower is situated in the poura area. Mobile companies are Grameen, Aktel, Bangla Link, City Cell, Tele Talk, Warid and Jubok. The existing BTTB lines are presented in Figure 7.1.

7.8.2 Problem in Telecommunication Facilities: In many areas of the Paurashava, BTTB lines are available but due to availability of Mobile phone, town dwellers are not interested to connect the line.

7.8.3 Telecommunication Facilities Improvement Proposals

BTTB lines help us in many ways. The proposed BTTB lines are presented in Figure 7.2.

7.9 Fire Service and Civil Defense

7.9.1 Existing Fire Service and Civil Defense

The fire service and civil defense office is located beside the Jessore-Khulna main road at a walking distance from the Paurashava office area.

7.9.2 Fire Service and Civil Defense Improvement Proposals

Fire service and civil defense of Nowapara is well organized with manpower and equipment. In the CBD residential area, many roads are so narrow that they could operate their service when it is needed. Set back rules should be strictly enforced to overcome the problems.

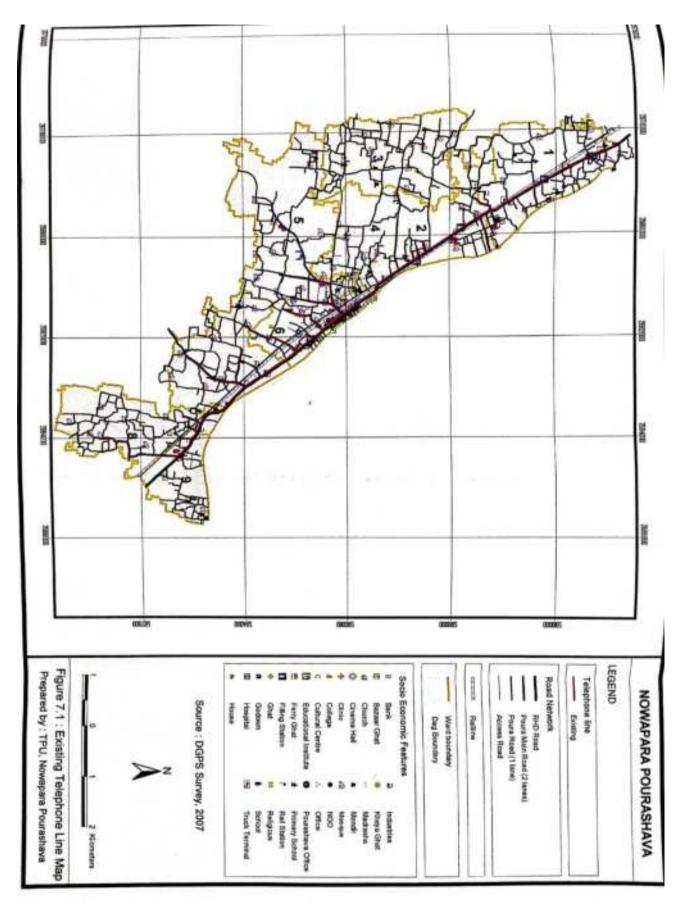


Figure 7.1 : Existing BTTB lines of Nowapara Paurashava (Source : TPU, 2007)

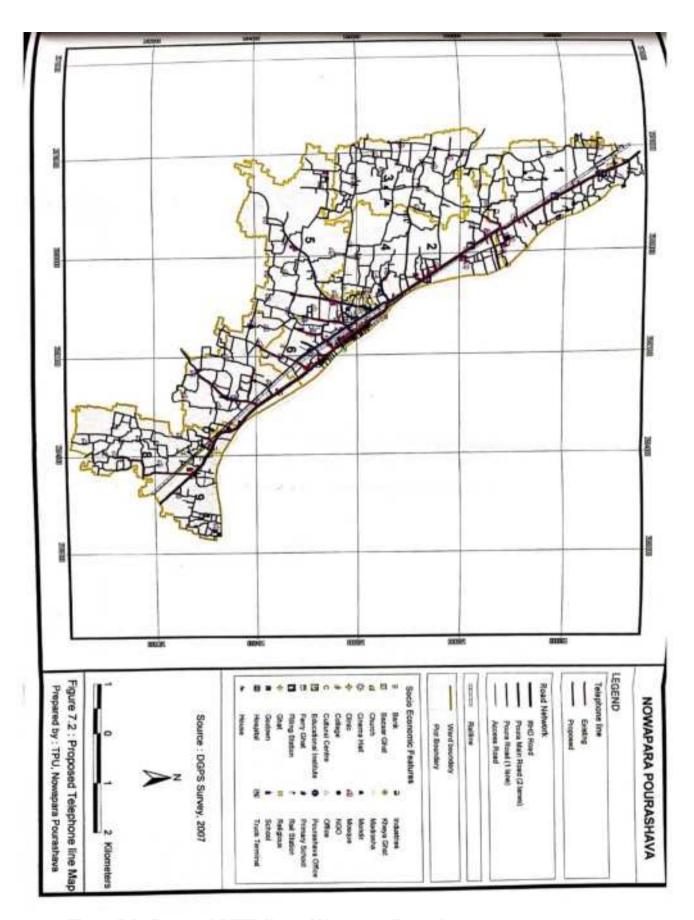


Figure 7.2 : Proposed BTTB lines of Nowapara Paurashava (Source : TPU, 2007)

8. Municipal Services and Facilities Plan

8.1 Introduction

A Socio Economic Survey has been conducted with the help of Urban Governance and Infrastructure Improvement Project (UGIIP) for Nowapara Paurashava. It is considered as the baseline data. With the help of UMSU, Paurashava conducted an intensive survey on existing municipal services and facilities. Already it has been computerized. TPU arranged nine (9) Ward Committee meeting during July-December 2007 for receiving proposals regarding this. Also a Town Level Co-ordination Committee (TLCC) meeting and municipal authority monthly meeting was arranged to receive proposals.

8.2 Water Supply

8.2.1 Existing Water Supply System

Recently Nowapara Paurashava has installed 11 km pipeline water supply and 02 submergible pump at Nowapara Bazar and Bengal Gate which have the capacity of 16 m³/hour for each. It covers Ward no 4,5 and 6. Now a days, it is not operating. The town dwellers meet their demand through Deep Tube Well (DTW) and Hand Tube Well (HTW). The distribution of HTWs and DTWs among 9 Wards are presented in Table 8.1. The existing water supply systems are presented in Figure 8.1.

Table 8.1: Distribution of HTW and DTW of Nowapara Paurashava

Ward No	No of HTW	No DTW
1	378	4
2	327	15
3	389	11
4	601	13
5	519	8
6	1799	14
7	289	2
8	470	4
9	428	5

Total	5200	76

Source: TPU, 2007

8.2.2 Future Water Demand

The socio-economic condition and income status of the domestic consumer are the governing key factors to estimate the unit water demand of the population. Water consumption will gradually increase for high-income groups when their consciousness about Public Health is focused and addressed properly. The Per Capita Water Demand is the annual average water consumption of one person daily. The annual water demand divided by 365 will give the average day demand. Thus the average daily demands over a year, means the annual average daily demand.

The total quantity of water required by the community can be computed by using the following expression:

$$Q_f = P_f \times R$$
 (equation no 8.1)

Where,

 Q_f = Quantity of water required per day

P_f = Projected population estimated for the design period

R = Rate of water consumption per day

The Unit of Per Capita water demand is usually expressed in liters per capita per day (lpcd). Water consumption is not constant throughout the year, during dry months water demand is more than that during the winter. Therefore, an allowance of at least 20% is kept for such seasonal variation. The population figures of 2001 were collected from the census of 2001 and the population projections were carried out for the year 2007 to the design year 2027. Domestic water demand in ML/day are computed for the year 2007 to 2027, by assuming an average per capita water consumption @ 120 lpcd. The present and future domestic water demand is shown in Table 8.2.

Table: 8.2 Domestic Water Demand for Nowapara Paurashava

Year	Population	Water demand (ML/day)
2007	84,665	10.2

2010	91,174	10.9
2015	1,03,156	12.4
2020	1,16,711	14.0
2025	1,32,048	15.8
2027	1,38,733	16.6

Source: TPU, 2007

8.2.3 Problem in Water Supply System

The problems of water supply for Nowapara Paurashava are given bellow

- Limited water supply pipe line
- Lack of Overhead tank for storage of water
- Town dwellers are not interested to collect water with pay

8.2.4 Water Supply Improvement Proposals

- Distribution line needs to be constructed from the both side of the Jessore-Khulna main road.
- More attention to be given to the residents of the Ward No 4,5,6 and 7.
- Workshops, rallies, courtyard meetings, individual household contracts will be conducted to increase awareness about pipe line water supply among the households.

The proposed water supply lines are presented in Figure 8.2.

8.3 Solid Waste Management

8.3.1 Existing Solid Waste Management System

Solid waste management has now become a global issue for civilized societies. Prevailing practice of solid waste management of the Nowapara Paurashava includes road sweeping, drain cleaning, collection of the swept wastes, cleaning the dustbin and finally disposing the wastes to dumping site. For garbage/solid waste management, the Paurashava has launched Community based Waste Management; organized by UMSU. Beside this, the solid waste is also found to be dumped on private low lying areas (uncontrolled land fills). The existing solid waste management systems are presented in Figure 8.3.

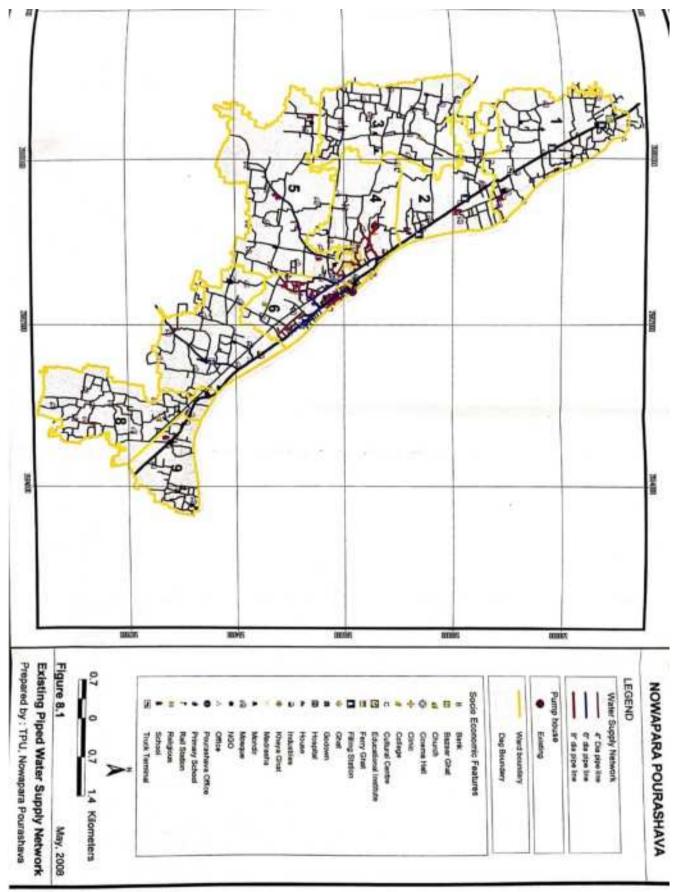


Figure 8.1 : The existing water supply system of Nowapara Paurashava (Source : TPU, 2007)

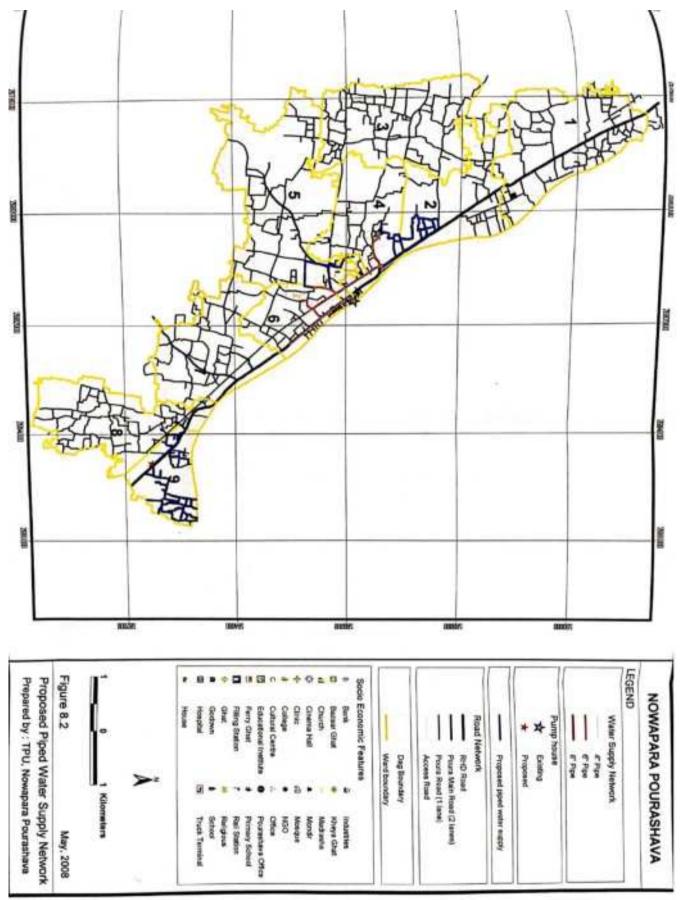


Figure 8.2 : The proposed water supply system of Nowapara Paurashava (Source : TPU, 2007)

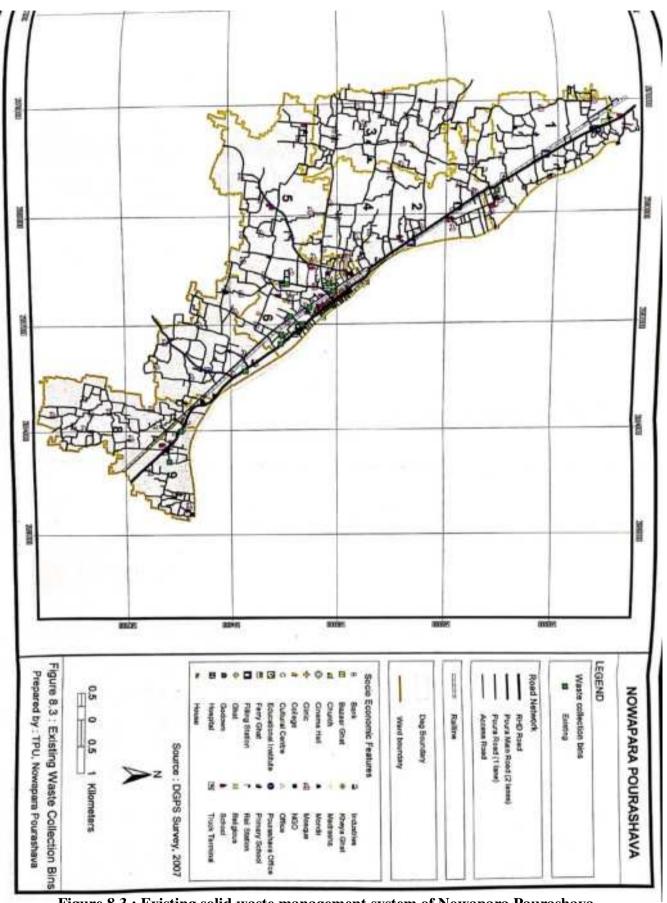


Figure 8.3: Existing solid waste management system of Nowapara Paurashava

(Source: TPU, 2007)

8.3.2 Waste Generation Capacity of Nowapara Paurashava

As per census 2001, the population of Nowapara Paurashava is 73,006 with the growth rate of 9.84%. Waste generation capacity is calculated based on a survey conducted in Mymensingh Paurashava by LGED in collaboration with STIDP and ISP consultants and other study reports. Future waste generation capacity are presented in Table 8.3.

Waste Generation at 2007 (Population = 84,665)

	Overall waste generation rate	=	0.31	kg/cap/day
		=	26	M.T./day
	Total	=	26,084	kg/day
	(Considering 50 beds)			
5.	Hospital/Clinical waste @ 1kg/bed	=	50	kg/day
4.	Institutional waste @ 3% of domestic waste	=	635	kg/day
3.	Market waste @ 12% of domestic waste	=	2,540	kg/day
2.	Commercial waste @ 8% of domestic waste	=	1,693	kg/day
1.	Domestic waste @ 0.25kg/cap/day	=	21,166	kg/day

Table 8.3: Expected waste generation capacity of Nowapara Paurashava

Year	Population	Waste Generation (M.T./day)
2007	84,665	26
2010	91,174	28
2015	1,03,156	32
2020	1,16,711	36
2025	1,32,048	41
2027	1,38,733	43

Source : TPU, 2007

8.3.3 Criteria for Selection of Solid Waste Dumping Site

The Paurashava does not have its own solid waste disposal site. For selection of solid waste dumping site, the following criteria should be considered.

- At least two solid waste disposal sites should be selected and reserved so that when the first site is filled up, the second site would be used.
- Site should be located to minimize fuel distance.
- Site should not create any nuisance to the residential areas.
- Site should be connected with main road and have sufficient width for truck movement.
- Infiltration of water into the dump should be prevented by covering the wastes with a layer of soil and sloping surface of the dump.

After filling and closing up of solid waste disposal site, it can be used for many purpose such as playground, market, shopping center, parks, recreational area, car parking area, bus/truck terminal or other public facilities.

8.3.4 Solid Waste Management Improvement Proposals

TPU arranged nine (9) Ward Committee Meeting during July-December 2007 for receiving proposals regarding Solid Waste Management. Also TPU conducted an intensive survey on existing Solid Waste collection facilities. However, the total management system shall be improved through incorporation of new / additional garbage truck, pushcarts, communal bins and tractor trailer. The existing and required facilities regarding Solid Waste Management are given in Table 8.4. The proposed solid waste management systems are presented in Figure 8.4.

Table 8.4: Existing and Required Facilities of Solid Waste Management

Name of Item	Existing Facilities	Proposed Facilities
Dumping Site	00	01
Dumping Truck	02	02
Dumping Rickshaw	07	20
Dustbins	12	00
Cleaning Staff	36	20

Source: TPU, 2007

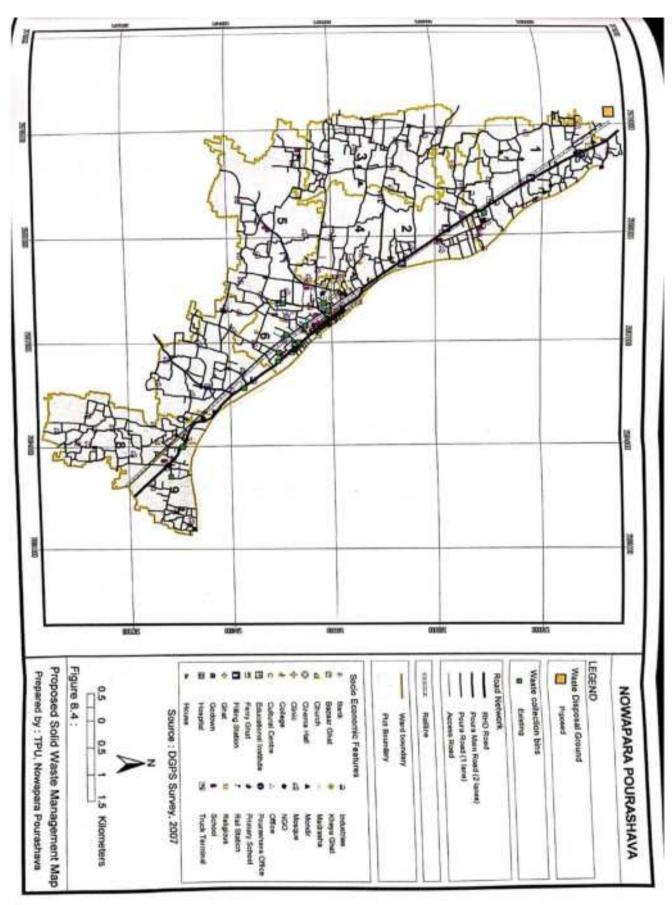


Figure 8.4 : Proposed solid waste management system of Nowapara Paurashava (Source : TPU, 2007)

Some specific proposals regarding solid waste:

The present solid waste management should be improved through incorporation of some modern device. As such the following guidelines have been provided.

- Launching of community participation program by motivating the community.
- There should be proper dumping place to waste disposal.
- The existing and conventional method of disposal system of solid wastes, open dumping system should be modified into a controlled solid waste disposal system
- There should be awareness program on the disposal and management of waste
- Local NGO of Nowapara may take awareness program in this regard
- Willing to pay if the timely and proper disposal is ensured

8.4 Sanitation

8.4.1 Existing Sanitation Condition

Sanitation is one of the important components of primary health. Benchmark Survey report (2007) reveals that there are 12 Public Toilets, and the number of latrines in the Poura area is 12,865, out of which 6,591 are pucca, 2,510 are semi-pucca and 3,764 are kutcha. Paurashava provided 508 pucca latrines to the deserving people. Beside this, Nowapara Paurashava received the 100% sanitation award from Government of Bangladesh.

8.4.2 Problem in Sanitation

Although, Nowapara Paurashava covered 100%, but some problems remains in there. Latrine connection to drains create nuisance and threat to environment. Drains are not flowing properly, and the latrines on them are creating nuisance and threat to environment. Paurashava should have wider role in implementing the sanitation program successfully. There should be continuous awareness program on sanitation until it is fully successful.

8.4.3 Sanitation Improvement Proposals

- Latrines should be available at cheaper rate. There should be a crash program to install sanitary latrines at every household who do not have sanitary latrine.
- Awareness campaign should be undertaken by the Paurashava.

- Installation of sanitary latrines should be made compulsory within Paurashava area.
- Awareness campaign should be undertaken by the Paurashava
- Municipality should have enough funds and adequate manpower to run sanitary programs. Municipality can share with local NGO in this regard.
- Decisions have been made to set up 04 public toilets at the following locations
 - Bengal Mill Gate Bazar
 - Nowapara Station Bazar
 - Taltola Bazar
 - Mile Post Colony

8.5 Electricity

8.5.1 Existing Electricity Condition

Nowapara Paurashava is under the coverage area of Jessre Polli Bidduit Somittee-2. As it is a industrial area, the condition of continuous electricity supply is well. The existing electricity network line are presented in Figure 8.5.

8.5.2 Problem in Electricity

The gross failure (as it has been regular Phenomenon in the country) in providing regular electricity to the Paurashava area has become a causes of a lot of hazards in living, contributing to deterioration of social security situation of the area; particularly helped in the growth of social crimes, and have proved to be great inconvenience to the business and student community in the Paurashava.

8.5.3 Electricity Improvement Proposals

Decisions have been made to provide the electricity in the following area on the basis of priority.

- Amdanga Darir Par
- Sarkhola Dakkin Para
- East side of Rana Vata
- Gajipur Morol Para
- Jaforpur Hindu Para

- Matpara of Nowapara
- Guakhola Sardar Para
- Serajkhati Hatem's Shop
- Raighat Hasi Madam House to Khair House
- Moallem Tola Amin Jommadar House
- Rajghat Moallem Tola Puraton Khea Ghat
- Dhopadi Datto Para
- Nowapara west para
- Buinkora Kamrul Sardar House
- Sarkhola Fakir Bari
- Andha Suren House
- Seraj Khati Modda Para Mosque
- Buinkara Annanto Sing House
- Gajipur Sardar Bari
- Mollem tola Razzak Jommadder House
- Amdanga Modda Para
- Amdanga Goni Morol House to Munsur House

The proposed electricity lines are presented in Figure 8.6.

8.6 Street Lighting

8.6.1 Existing Street Lighting

It appears that most of the administrative, civic, commercial and other important urban amenities and utility services providing agencies make room for their establishments/development along the major roads. And thus guide the growth and shape from and structure of the town. The roads also provide right of way for utility services and other physical infrastructure networks. Recently Nowapara Paurashava has installed 10 km street light. In covers Ward no 2,4,5,6 and 7. Now a days, it is not operating. The existing street light coverage are presented in Figure 8.7.

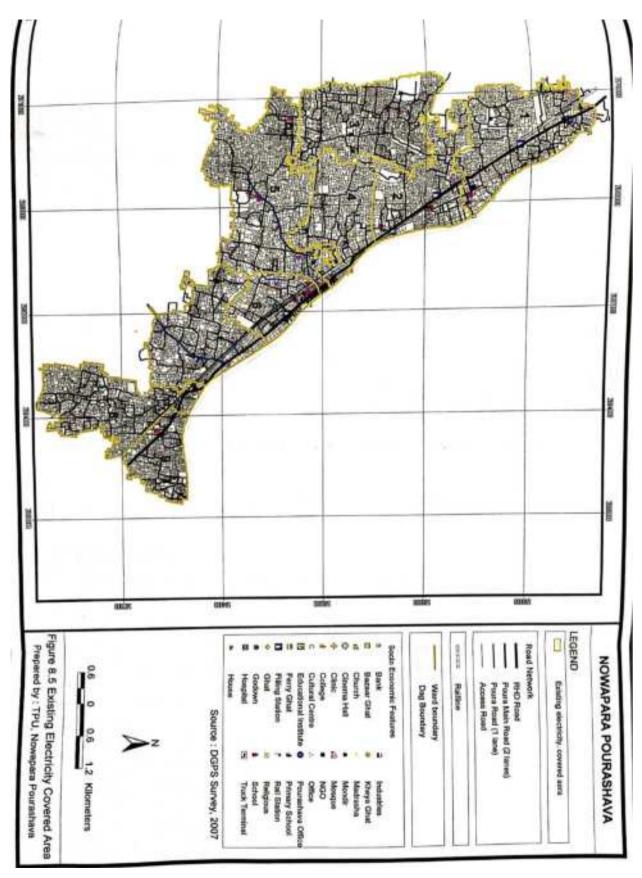


Figure 8.5 : The existing electricity line of Nowapara Paurashava (Source : TPU, 2007)

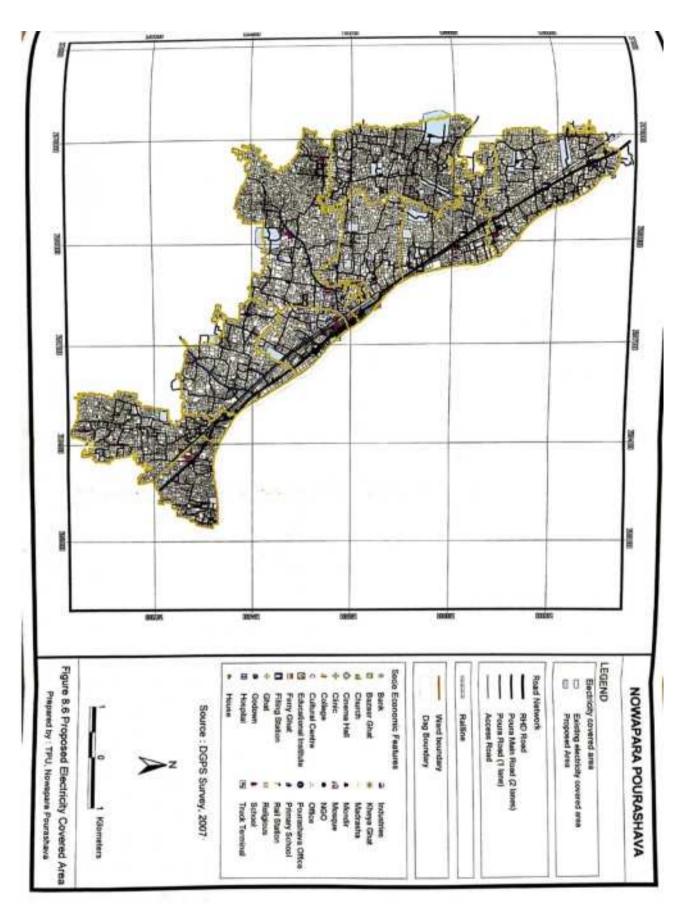


Figure 8.6 : The proposed electricity line of Nowapara Paurashava (Source : TPU, 2007)

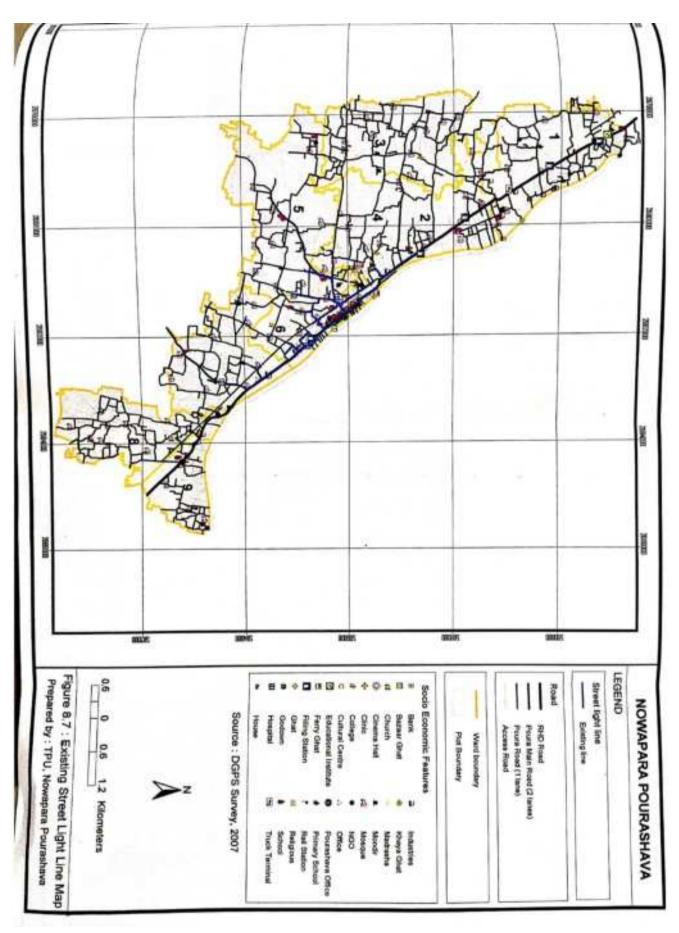


Figure 8.7 : The existing street light line of Nowapara Paurashava (Source : TPU, 2007)

8.6.2 Problem in Street Lighting

Street light is not a free of cost service from the Paurashava. So some people are showed their unwillingness regarding street light. If it would be available, crime in the would be reduced.

8.6.3 Street Lighting Improvement Proposals

Paurashava should take necessary steps to available this service to all town dwellers. Decisions have been to extend this service in the CBD area. The proposed street lines are presented in Figure 8.8.

8.7 Gas Network

8.7.1 Existing condition of Gas Network

At present, Gas Network is not available in the Paurashava area.

8.7.2 Problem in Gas Network

Nowapara Paurashava is a industrial based area. So, there is a high prospects to extend the Gas line in Nowapara Paurashava. At major restaurant and household use wood as a cooking fuel. The cost of gas is much lower than the wood.

8.7.3 Gas Network Improvement Proposals

Concern authority has taken an initiative to extend Gas line at Nowapara Paurashava area. The proposed Gas lines are presented in Figure 8.9.

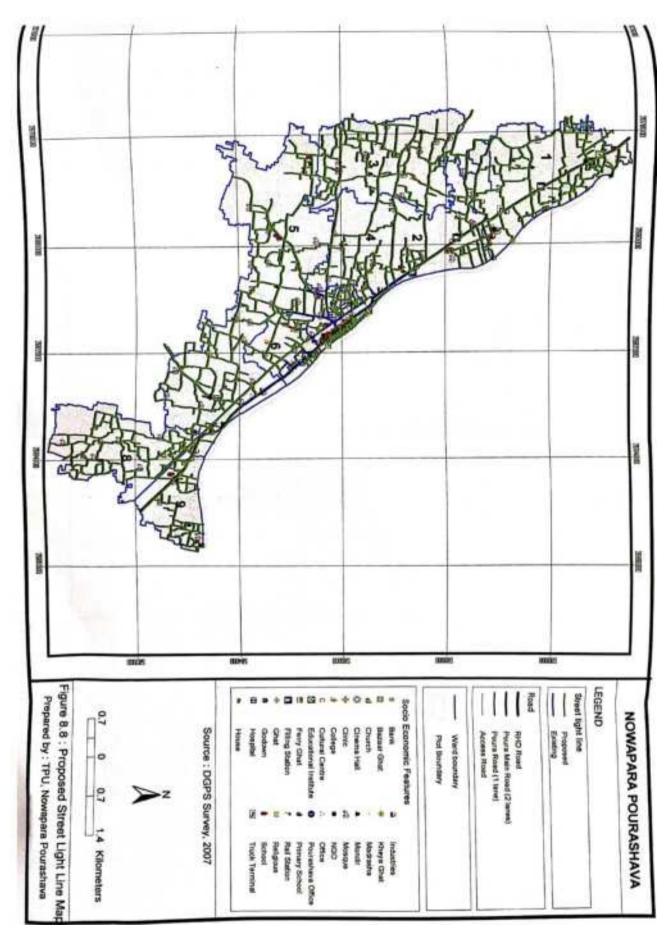


Figure 8.8 : The proposed street light line of Nowapara Paurashava (Source : TPU, 2007)

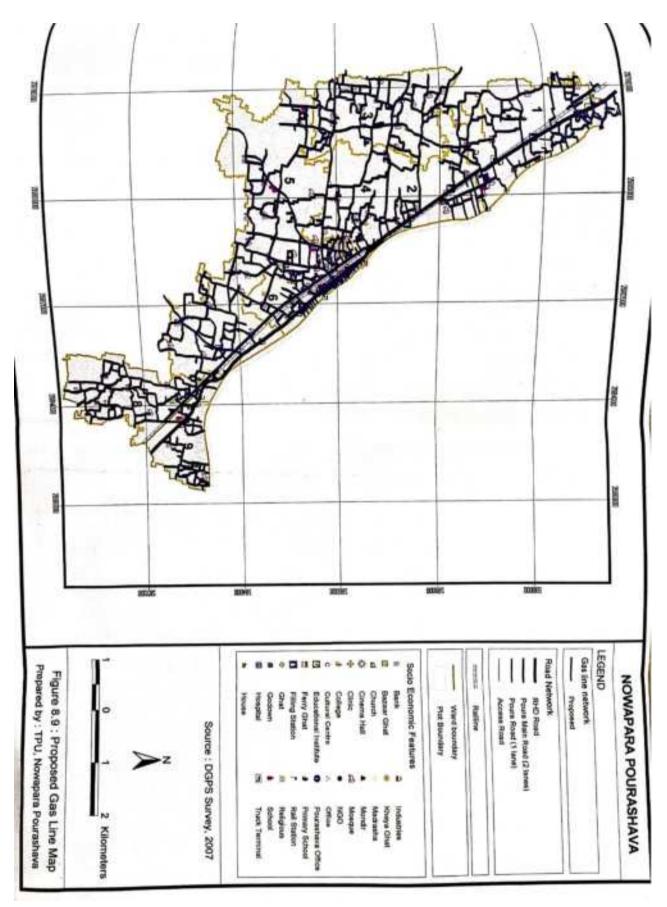


Figure 8.9 : The proposed gas network line of Nowapara Paurashava (Source : TPU, 2007)

9. Land Use Planning

9.1 Introduction

Khulna Development Authority (KDA) prepared a Landuse Plan for Nowapara Paurashava. The plan is being implemented. TPU considered the plan properly. But now a days, the plan could not fulfill all the requirement of urban life for Nowapara Paurashava. Then some proposals have been added to the KDA Master Plan. TPU conducted an intensive survey for existing land use during July-December 2007 with the guideline provided by Urban Governance and Infrastructure Improvement Project (UGIIP).

Land use plan refers to a framework that guides and controls physical development of an area. It is basically concerned with the location, intensity and amount of land development requirements for the various space using functions of urban life. It reflects an analysis of urban activity system and a carefully studied estimate of future land requirements for expansion and renewal. The formulation of land use plan is based on development strategies that should be used to guide the general content, form and location of development. The land use plan has been prepared with a view to designing future land utilization pattern to ensure most convenient and proper growth of the urban functions and to satisfy the immediate as well as future needs. A well integrated spatial plan with sound financial, sectoral and institutional policies facilitate efficient urban development. Urban centers are the places of agglomeration of economic activities, important hubs of production, processing, innovation and employment. In recent days, there has been a trend of growing importance of urban centers in the performance of national economy. It is essential for Nowapara Paurashava to develop its urban areas towards sustained growth and social development.

9.2 Landuse Classification/Zoning

The importance of zoning has been recognized during the last century as a major measure to control and regulate uses of land. The zoning provides to be essential and fundamental to evolve comprehensive town planning. It should be remembered that the results of zoning are not immediate and it can not immediately cure the disease of an area which has been developed in a disorderly way with the whims and ideas of individual owners. But if

provisions made in zoning are sincerely implemented, it can certainly arrest the future decay of the area and can avoid future complications in respect of town life.

The zoning is related to the following three important aspects:

Density Zoning: In density zoning, the density of population in the residential areas is controlled by means of suitable rules and regulations. It is quite evident that it is not practicable to restrict the number of persons from occupying any residential unit. Hence, the following indirect measures are adopted to have effective density zoning.

- The front side and margins from the boundaries are specified.
- The maximum height of the building is specified.
- The minimum size of allotment for each house is specified.
- The number of houses per unit area is limited.
- The ratio of total site area to the total built up floor area is specified.

Height Zoning : The height zoning aims to controlling the height of building with due consideration of the following two factors

- Bulk or cubical contents of the buildings and
- Street which and other adjacent marginal open spaces from the point of view of provision for light and vitalization

The restriction on height of buildings will depend on nature of building, type of zone and climatic conditions. The height zoning affords to control the development of central business district of the cities and it thereby assists in solving the problems associated with such heavy concentration as traffic congestion. The main objects of height zoning are to supply enough daylight to the buildings and to cause reasonable traffic movement.

Use Zoning: The important zones are usually classified into Residential, Commercial, Industrial and Recreational zone. The important aspects of use zoning are as follows

- Each zone permits the best use of land for which it is reserved.
- It enables the proper selection of sites for various community needs
- It is possible to accumulate determine in advance the require size of transport facilities and other public amenities
- Unnecessary intrusion of factories and industries on residential area is avoided

9.3 Existing Land Use

TPU conducted an intensive survey for existing land use during July-December 2007 with the guidelines provided by Urban Governance and Infrastructure Improvement Project (UGIIP). The existing Land Use distributions are presented in Table 9.1.

Table 9.1: Existing Landuse Distribution of Nowapara Paurashava

Sl No	Landuse Type	% of Total Area
1	Residential	22.89
2	Commercial	2.10
3	Agriculture	32.85
4	Industrial	4.95
5	Transportation	6.68
6	Water Body	4.98
7	Open space, Recreational facilities	7.28
8	Education	1.40
9	Service Activities	6.24
10	Community Service	0.13
11	Religious	0.84
12	Offices	0.29
13	Restricted Area	1.32
14	Vacant Land	0.24
15	Mixed Use	0.68
16	Miscellaneous	7.13
Total		100

Source: TPU, 2007

From the above table, it is found that about 32.85% of total lands are occupied by Agricultural area and 22.89% of lands are occupied by residential area. The existing conditions of land use are presented in Figure 9.1.

The map is available in the attach folder

Figure 9.1 : The existing landuse of Nowapara Paurashava

9.4 Proposed Landuse Plan

Residential Area

Decisions have been made to develop some planned residential area with direct supervision and financial assistance of Khulna Development Authority (KDA) with all urban facilities.

Poura Super Market

Decisions have been made to establish a Poura Super Market at Old Union Parishad Bhaban.

Poura Kitchen Market

Decisions have been made to re-construct the existing kitchen market and construct a new kitchen market at Changutia Bazar. It would be the source of income for Paurashava.

Children Park

Parks and open spaces are called the heart of the town. Decisions have been made to construct a children park at 6 no Ward PDB area.

Graveyard

At present, there is a Poura Graveyard in this Paurashava. Decisions have been made to extend the existing Graveyard and construct a new Graveyard in the middle position of Carpeting Mill and Ahad Mill.

Slaughter House

Nowapara pourashova have not possessed a slaughter house. Decisions have been made to construct a slaughter house near the Poura Super market.

Truck Terminal

At present, there is a private truck terminal at Vangagate. Decisions have been made to establish a truck terminal at PDB Taltola area.

Bus Terminal

There is no Bus Terminal in Nowapara Paurashava. Poura people are suffering from serious traffic congestion. Decision has been made to construct a new bus terminal beside the KDA proposed bypass road.

Town shipment

Decisions have been made to extend the Poura area at Lakshmipur and Gazipur.

The above proposed landuse plan are presented in Figure 9.2 and plot to plot land use proposals are presented in Figure 9.3. The distribution of proposed landuse is presented in Table 9.2.

Table 9.2: Proposed Landuse Distribution of Nowapara Paurashava

Sl No	Landuse Type	% of Total Area
1	Residential	36.33
2	Commercial	14.49
3	Agriculture	15.12
4	Industrial	12.93
5	Transportation Terminal	0.18
6	Water Body	2.10
7	Open Space	6.50
8	Education	2.28
9	Service Activities	0.18
10	Religious	2.54
11	Offices	1.07
12	Restricted Area	1.32
13	Mixed Use	0.90
14	Green Belt	4.06
Total		100

Source : TPU, 2007

9.5 Land Use Management

- In the recommended housing area private development with smaller plot size should be encouraged.
- Ensure assess of land to most of the people with appropriate standards for housing areas.
- Facilitate provision of land for infrastructure provision at an appropriate standard affordable for the residential neighborhood.
- Ensure that environmental and natural quality is being preserved during development.
- Urban land ownership should be restricted to the minimum. Therefore, a ceiling on urban land ownership may be framed.

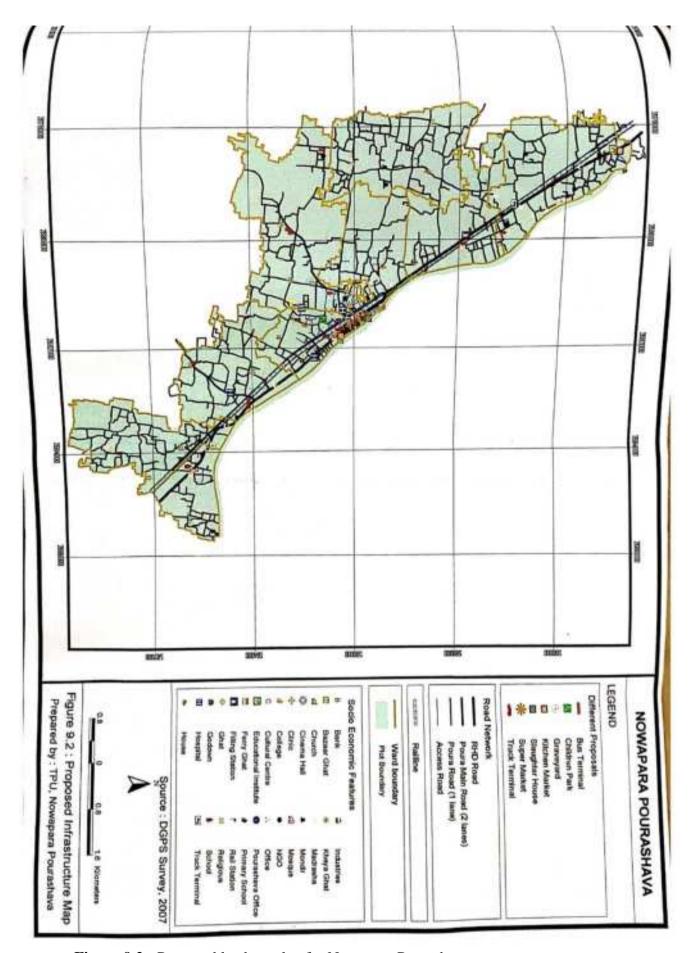


Figure 9.2: Proposed landuse plan for Nowapara Paurashava

The map is available in the attach folder

Figure 9.3: Plot to plot landuse plan for Nowapara Paurashava

10. Slum Improvement Plan

10.1 Introduction

Poverty Reduction Action Plan (PRAP) has been prepared with the help of Urban Governance and Infrastructure Improvement Project (UGIIP) for Nowapara Paurashava. For the preparation of PRAP, the Paurashava's concern officers conducted an intensive survey on existing slum condition. Already the survey has been finalized and Pouro Parishad approved it. TPU arranged nine (9) Ward Committee meeting during July-December 2007 for receiving proposals for slum improvement from Ward Committee Members.

UGIIP Project focuses on upgrading the condition of the poor through PRAP. It will reduce vulnerability to environmental degradation, poverty and natural hazards. As per project policy, PRAP will promote active participation of women citizens in municipal management and services. NGOs will be engaged to facilitate community mobilization for improving living conditions of slum dwellers, provision of micro-credit for income generating activities and social programs (e.g. on literacy training, poverty alleviation), leadership and skills training offer to poor woman.

10.2 Existing Slums and Their Condition

There are 12 slums within the Paurashava area. The name of the slum and number of families are given below

Ward No	Name of Slum	No. of Families
1	Mohakal Vhangagate Colony and adjacent area,	350
	Amdanga slum area	
2	Kapash hati and Lakshmipur slum areas	270
3	Dhopadi, Purbapara and Dakshinpara slum	130
4	Nowapara westpara slum areas	100
5	Nowapara, Iranipara, Driverpara, Buinkara Sardarpara slum area	480
6	Guakhola Beharapara, Khanbari and Adarshapara Slums	100

7	Buikara Colony para	100
8	Jaforpur Milepost and Gazipur	285
9	Carpeting Bazar adjacent area and JJI Mills Colony	300
Total		2,215

Source: Socio-Economic Survey, 2007

Population

The population in the slums is 11670, out of whom 6,345 are males and 5,325 are females. Total number of households is 2,215.

Employment Status

The present employment patterns are attributed to Rickshaw/Van driving, daily labor, masonry, fishing, agricultural labor, maidservant, hawker etc.

Water Supply and Drainage System

The sources of water supply of the slum people are Hand Tube Well, ponds and canals. Water supply in the slum area is not sufficient. There are 1,620 m drains in the slum area which are almost kutcha/earthen.

Water and Vector-Borne Diseases

The sample survey in slums identified cases of Dysentery, Diarrhea and Fever as major diseases; while Polio, Tuberculosis and Chicken Pox were less prevalent.

Working NGOs

At present, many NGOs are working in Nowapara. The name of working NGOs are ASHA, BRAC, BKS, PSS, BIVA etc. These NGOs are organizing and educating poor and destitute women, developing social awareness and livelihood skills and providing credit for income generation.

10.3 Slum Improvement Activities Through UGIIP

Satellite School Activities

According to the demand of the beneficiaries, four satellite schools has been established. The target students of the schools will be the dropped out children from the schools or those who never go to the school. One school teacher (must be a female) has been selected for each school from the beneficiaries or nearest to slum area.

Mother and Child Health Care Activities

Primary health care education will be provided from the project. NGOs will give necessary training and assistance to the Community Health Worker in improving the health situation of the community. One Community Health Worker (who must be a female) for every 50 households.

Training

4 types of training would be conducted for slum improvement. They are

- Leadership training for both male and female
- Skill Development training
- CDC Management training
- Education and Health related training

Credit Operation

Micro credit has been operated by NGO. Micro credit fund will be provided from the project for one third of the total members and the rest two thirds will get loans from the resolving funds.

Infrastructure Improvement

To develop the environment of the slum area, physical works will be implemented from the project. Installation of Tube Well and construction of Latrine, Footpath, Drain, Dustbin, Street Light, will be done as per requirement in the slum/cluster area.

10.4 Slum Improvement Proposals

TPU arranged nine (9) Ward Committee meeting during July-December 2007 for receiving proposals from Ward Committee Members. The following activities will be implemented for improvement of slum condition

- Street Light
- Dustbins

- Hygienic Latrine
- Drainage
- Tube Well
- Road Improvement

11. Special Project Identification and Proposal

11.1 Introduction

TPU arranged nine (9) Ward Committee meeting during July-December 2007 for receiving proposals from Ward Committee Members. Also a Town Level Co-ordination Committee (TLCC) meeting and a municipal authority meeting was arranged to receive proposals regarding special project identification from the town dwellers.

11.2 Project-I: Housing Estate Development

Location of the Project

Rajghat Area, Nowapara Paurashava, Jessore

Proposed Implementation Agency

The project may be implemented by the Paurashava or Public Works Department under direct supervision of a co-ordination committee formed by taking senior members of the PWD, Local Government Engineering Department (LGED) and Department of Public Health Engineering (DPHE) and such other agencies.

Nature of the Project

The project aims to fill the gap of accommodation crisis by creating housing facilities in near future.

Site Development

Area and location will be measured before the site development scheme.

Proposed Layout:

Suitable layout plan will be made according to the standards. Plot sizes will be considered adequate to ensure healthy environment and keep the community facility according to the provision of Neighborhood standards.

Water Supply

For this project area, Authority will set up a deep tube-well.

Sewerage System

Authority will set up a sewerage line in this housing project.

Drainage

Primary, secondary and tertiary drains will be constructed by the Authority. It will direct linkage with the primary drains out fall.

Roads and foot paths

The road facilities will be proper designed and link with the other existing road networks. For the provision of utility services, road standard will maintain properly.

Other Services

Installations of electricity supply and gas supply are also recommended and this service will set up in under ground.

Purpose of the project

Due to the decrease of employment opportunities in the rural areas and tremendous urbanization rate is creating the pressure of existing housing. In future, people will face in difficulties. The purpose of this project is to provide planned accommodation to the people.

Implementation Period

The project is proposed for implementation over a period of 5 years.

Mode of Implementation

The land may be acquired by implementing agency (as above) and site development (including road, drainage, electricity supply, gas line) may be completed through appropriate contractors. Bank financing may also be arranged by the implementing agency. Plots may be allotted through public announcement to the intending buyers with the condition that the houses are to be constructed as per standard design. Plots should not be allocated scattered rather this should be done from one end with gradual progression to the other end. Allotment of plots in each project may be completed within a period of one year but extension of services may be done gradually as required with the construction of houses.

Land Acquisition

Land may be acquired by the implementation unit as per government rules.

Project Benefits

The project will provide both tangible and in-tangible benefits.

Has any Survey conducted?

The project has been prepared on the basis of survey and investigation.

11.3 Project –II: Low Income Housing Project

- Hostel for working women
- Old Home
- Street Children Shelter

Location of the Project

Changutia Bazar Area, Nowapara Paurashava, Jessore

Proposed Implementation Agency

The project may be implemented by the Paurashava or Public Works Department under direct supervision of a co-ordination committee formed by taking senior members of the PWD, Local Government Engineering Department (LGED) and Department of Public Health Engineering (DPHE) and such other agencies.

Nature of the Project

The project aims to give shelter for working women those who come from out side the town. Old Home will give the shelter of elderly people. Street Children shelter will accommodate the vulnerable street boys.

Project Site

This site will be developed in the Poura area. It will be a multi-storied building. Different unit will use for their specific purposes.

Sources of Financing Envisaged

The Paurashava and different agency may provide fund for land acquisition and site development. International financing agencies such as the World Bank may be approached to provide credit for construction of building.

Project Benefits

The project will provide both tangible and in-tangible benefits.

11.4 Project -III: Development of Children Park

Location of the Project

Decisions have been made to construct a children park at 6 no Ward PDB area.

Proposed Implementation Agency

The project may be implemented by the Paurashava under direct supervision of a coordination committee formed by taking senior members of the Local Government Engineering Department (LGED) and such other agencies.

Importance and Justification of the Project

If the park set up in this area, it will give positive significance of the other districts. At that time, existing and new modern riders may set up in this park. It will give positive significance of the town.

Sources of Financing Envisaged

The Paurashava and different agency may provide fund for land acquisition and site development. International financing agencies such as the World Bank may be approached to provide credit for construction of building.

Project Benefits

The project will provide both tangible and in-tangible benefits.

12. Environmental Improvement and Management Plan

12.1 Introduction

A Model Town Plan of Meherpur has been prepared with the help of Urban Governance and Infrastructure Improvement Project (UGIIP). TPU of Nowapara Paurashava has been received the guideline for Environmental Impact Assessment (EIA) from that Plan. Environmental Evaluation System (ESS) that is developed by Battelle Columbus Laboratories in the United States, provided a basic guideline for EIA. TPU conducted several field visits and meetings at ward level to know about environmental impact.

Considering the available parameters, Environmental Impacts have been assessed by a simple methodology. Environmental Evaluation System (ESS) developed by Battelle Columbus Laboratories in the United States. In this study, an overall Environmental Impact Values (EIV) defined mathematically as following equation (12.1) to know the environmental degradation or environmental gain for the proposed master plan in a single quantitative term.

EIV =
$$\sum_{1}^{m} Vi*Wi$$

= $\sum_{1}^{m} (Vi)_1*Wi - \sum_{1}^{m} (Vi)_2*Wi$ Equation (11.1)

Where,

EIV = Environmental Impact Values

 $(Vi)_1$ = Value in environmental quality of parameter i with project

 $(Vi)_2$ = Value in environmental quality of parameter i without project

Wi = Relative weight (importance) of parameter i

m = Total number of parameters

Vi = The net change in environmental quality of parameter i

Upon the gathering of the environmental data and the response of the environmental parameter to the project activities, value in environmental quality of parameters and their relative importance in the project have been determined and EIV has been calculated. The

study identified the potential negative and positive environmental parameters with quantitative as well as qualitative analyses, recommending mitigation measures for the negative impacts.

12.2 Parameters of Environmental Impacts

Ecological parameter was divided into the sub-parameters namely fisheries, forest, tree plantation, wet land/wetland habitat, nuisance plant etc.

Physio-chemical parameter was divided into the sub-parameters like erosion & siltation, regional hydrology/flooding, drainage congestion/water logging, obstructing to waste water flow and dust/noise pollution.

Human-interest parameter was divided into the sub-parameters like loss of agricultural lands, employment opportunity, navigation/boat communication, commercial and service facilities, industrial activities and irrigation facility.

12.2.1 Positive Impacts

- Plan expansion and development of Nowapara Town
- Provide urbanization facilities to more people in the expanded area
- Improvement and expansion of communication system, water supply, electricity, education, health services and market places
- Creation of children park, playground, parks, lakes etc
- Enhancement of industrialization and business opportunity
- Creation of job opportunity for more people
- Environmental improvement through creation of urban zoning system, waste water treatment plant, sanitary landfill and strict implementation of law.

12.2.2 Negative Impacts

- Change in topography
- Loss of productive agricultural land due to urban expansion
- Loss of wet lands and capture fisheries resources
- Huge amount of solid waste production
- Increased demand of water supply for more people
- Increased traffic congestion
- Increased drainage congestion

12.3 Magnitude of Relative Importance of Environmental Parameters

The beneficial and adverse changes in environmental parameters resulting from any project usually expressed in quantitative terms have been plotted in a scale to quantify the environmental alterations as shown in Figure 12.1. The figure shows the correlation between quantitative statement and proposed quantitative values of environmental changes resulting from a project. The magnitude of environmental alterations for the housing facilities, socio-economy, drainage facilities, water availability, fish culture, reduction of flood, public utility services, recreation facilities, loss of agricultural lands, hindrance of overland flow and loss of habitats of aquatic animals has been quantified based on Figure 12.1.

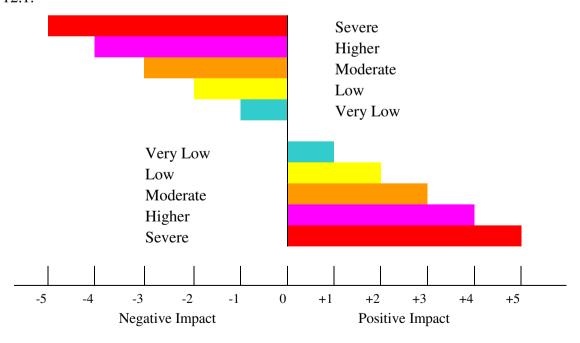


Figure 12.1 : Quantification of environmental impact

(Source : LGED, 1992)

Relative importance or weight of the environmental parameters related to the present study have been given different values based on the prevailing environmental concerns of the present project and presented in Table 12.1. The values representing importance or weight of the parameters have been used to compute the relative impacts of the parameters, which have been summed up to obtain the total EVI of the project.

Table 12.1: Relative importance values of environmental parameters

Environmental Parameters	Relative importance
Plan expansion and development of Nowapara Town	10
Provide urbanization facilities to more people in the expanded	15
area	
Improvement and expansion of communication system, water	10
supply, electricity, education, health services and market places	
Creation of children park, playground, parks, lakes etc	4
Enhancement of industrialization and business opportunity	4
Creation of job opportunities for many people	5
Environmental improvement through creation of urban zoning	8
system, waste water treatment plant, sanitary landfill and strict	
implementation of law.	
Change in topography	2
Loss of productive agricultural land due to urban	6
Loss of wet lands and capture fisheries resources	2
Huge amount of solid waste production	7
Increased demand of water supply for more people	3
Increased traffic congestion	12
Increased drainage congestion	12
Total	100

12.4 Impact Evaluation

The values indicating magnitude of environmental changes and the corresponding importance or weight of environmental parameters influenced by the project was quantified from Figure 12.1 and Table 12.1 respectively. These values were then put in the

appropriate columns in Table 12.2. The above values were multiplied to obtain positive and negative impact of the parameters. The relative impact and Environmental Impact Value (EIV) are shown in Table 12.2.

Table 12.2: Environmental Impact Evaluation of MIDP

Environmental Parameters	Relative	Degree of	Relative
	importance	impact	impact
Plan expansion and development of Nowapara	10	3	30
Town			
Provide urbanization facilities to more people in	15	5	75
the expanded area			
Improvement and expansion of communication	10	5	50
system, water supply, electricity, education,			
health services and market places			
Creation of children park, playground, parks,	4	3	12
lakes etc			
Enhancement of industrialization and business	4	2	8
opportunity			
Creation of job opportunities for many people	5	2	10
Environmental improvement through creation of	8	2	16
urban zoning system, waste water treatment			
plant, sanitary landfill and strict implementation			
of law.			
Change in topography	2	-1	-2
Loss of productive agricultural land due to urban	6	-3	-18
Loss of wet lands and capture fisheries resources	2	-1	-2
Huge amount of solid waste production	7	-3	-21
Increased demand of water supply for more	3	-1	-3
people			
Increased traffic congestion	12	-2	-24
Increased drainage congestion	12	-2	-24
Total	100		107

EIV = 201 - 94

= 107

12.5 Environmental Management Plan (EMP)

Possible mitigation measures for the negative impacts related to change in topography, loss of productive agricultural land, loss of wetlands and capture fisheries, solid waste production, increase demand of water supply, increase traffic congestion, increase drainage congestion are presented in Table 12.3.

Table 12.3: Possible mitigation measures for the negative impacts

Negative Impacts	Possible mitigation measures
Change in topography	Care should be taken on natural khal
Loss of productive agricultural land due to	Emphasis should be given on plantation
urban	
Loss of wet lands and capture fisheries	Wet lands should be preserved and it should
resources	be used as detention pond
Huge amount of solid waste production	Recycling could be taken
Increased demand of water supply for more	Awareness program should be taken on
people	wastage.
Increased traffic congestion	Road network should be designed as an
	integrated way.
Increased drainage congestion	Implementation of drainage master plan can
	play vital role in this regard

13. Implementation Plan of MIDP

13.1 Introduction

For priority selection, TPU conducted several meetings with Commissioners both male and female and finally with the Chairman of the Paurashava. Inputs from TLCC members and Poura Parishad, was the major indicator for priority selection. In the proposed implementation plan, disaster like flood and others have been considered with proper attention.

Before going to finalization of implementation plan, the following two items was considered properly-

- Resources allocation should be in correspondence with the social and economic benefits of the Pouro People.
- In the planning process choices have to be made by the decision maker, not by the planner.

13.2 Authority of the Plan

The Municipal Authority is the authority of the plan and Paurashava will implement the MIDP for the proper planning of the Paurashava. The different development work will be implemented by following the Municipal Infrastructure Development Plan (MIDP).

13.3 Periodic Review and Updating

In every two years the Paurashava will review and update the Municipal Infrastructure Development Plan with an update land use plan. Town Planning Unit will be prepared the updated MIDP and it will be presented in Ward Committee Meeting and TLCC Meeting. If any suggestions will be raised by the members, it should be incorporated in MIDP and finally it will be presented in Paurashava Monthly Meeting for approval.

13.4 Amendment of the Plan

Paurashava has the right to amend the plan as when necessary. If any amendment is required it should be discussed in Ward Committee Meeting and TLCC Meeting and the suggestions which would be raised by the members should be incorporated in MIDP. Finally it will be presented in Paurashava Monthly Meeting for approval.

13.5 Priority of Development Proposals

The following schemes are identified on priority basis through Ward Committee, TLCC and Municipal Authority.

Priority No	Name of Work	Database ID
1.	Construction of drain from Computer Little school to Boalmary canal rest part	03010611
2.	Construction of RCC Box culvert at Noorbag road and connecting Noorbag primary drain	03010613
3.	Construction of RCC drain from guakhola Monwar House to siraj mia ponds, Ch. 0-208m+ Link Darus salam Mosque culvert to Guakhola drain, Ch 0-37m	03010615
4.	Improvement & Widening of Road from Jessore Khulna National Highway to MSP Road Via girls School road, Ch. 00-987m+Link Back side of girls school road to connecting Hospital road, 142m	02010601
5.	Construction of RCC drain from Darus salam Mosque culvert to South side of girls school road up to girls school corner.	03010612
6.	Construction of RCC drain from opposite side of 6 no ward comissioner House to railway culvert with link road culvert	03010619
7.	Construction of RCC drain from Baby pharmacy to simultoli.	03010516
8.	Construction of RCC drain from Jogobabu more to simultoli.	03010517
9.	Construction of Kitchen Market at Nowapara Bazar	09010606
10.	Improvement & widening of road from Bengal textile mill more to Noorbag Monirumpur connecting road, Ch. 00-943m	02010648
11.	Construction of vertical Extension & Top Slab from Noorbag to Cowhat.	03010520
12.	Construction of RCC Top slab at Noorbag Monirumpur connectin road to Model school	03010614
13.	Improvement of Simultoli Road, Ch 0-340m	02010523
14.	Improvement of Road from Buinkara Primary School to Sorkhola MSP BC Conecting road, Ch 0-910m	02010506
15.	Improvement of rest part of North Bengal road, Ch. 00-430m	02010423
16.	Improvement of Road from Jessore Khulna National Highway at Chengutia road to BMDF Bc road via Mistrypararoad. Ch 0-930m	02010119
17.	Improvement of Road from Jessore Khulna National Highway at Nowapara Jute Mill to Sarwar Graveyard, Ch 0-700m	02010212
18.	Improvement of Road from Jessore Khulna National Highway at Mr. Wadud Mollah H/S to BMDF BC Connecting road, Ch 0-455m	02010207
19.	Improvement of Road from Jessore Khulna National Highway at Mr.Latif Mollah house side to Cotton Mill, Ch 0-348m	2010204

		2010202
20.	Improvement of Road from Jessore Khulna National Highway at Mr.Iftekhar Hossain house side to Colatola BMDF connecting road, Ch 0-210m	2010203
21.	Improvement of Road beside Rana Vata to connect Monirumpur road, Ch 0-641 m	2010413
22.	Improvement of Road from Ex Chairman House road to Nurani Madrasha road, Ch 0-840m	2010724
23.	Improvement of Link road from Akram House to Gazipur: Road	2010649
24.	Improvement of Road from Ex 9no Ward commissioner House road to Kheya ghat, ch 0-350m +Link Moyalemtola BMDF BC road, Ch 0-350m	2010904
25.	Improvement of road beside sorkhola provati club to Sorkhola Mosque	2010510
26.	Construction of RCC drain at Sahebpara	3010915
27.	Construction of RCC drain from Haresh shaikh house to Hizbullah Link road (Shaheedul House).	3010410
28.	Improvement & widening of road from Noorbag Monirumpur Connecting road to Girls school road Via Model School	2010649
29.	Construction of drain from Nowapara Jute mill road Chainage 150m-350m	3010210
30.	Construction of RCC drain from Model School to Girls school connecting road	3010616
31.	Construction of RCC drain from Former 9No ward commissioner house to Kheyaghat.	3010914
32.	BMDF road to Kristianpara	2010810
33.	Construction of RCC drain simultoli road side	3010518
34.	Female Commissioner's House at Amdanga via to Dham Road	2010150
35.	Female Commissioner's House at Amdanga via Link Darir Par to Dham Road	2010156
36.	01 no. Ward Commissioner's House MSP Road to Abdul Aziz house	2010139
37.	Saroer House at Masorhati to Sidlaw Textile	2010212
38.	Jessore Khulna Road Sajedur's Nursery via Kapashati to MSP road at Laxmipur	2010224
39.	Implementing UGIIP road to Last border of Sarkhola	2010511
40.	Laxmipur MSP road at Gaffer Biswas House to Dhopadi Doptoripara	2010230
41.	Ulubottola MSP road to BMDF Road via Nurani Madrasha & Commissioner's House side road	2010302
42.	Widening and Improvement of Hospital road from Fatima Surgical to Upazila Hospital	02010633
43.	Dhopadi Notun Bazaar MSP road to UGIIP road via Omar Mollah & Nuruzzaman Sarder House side road.	02010310
44.	Dhopadi end of Betar road chowrasta via Doptoripara to Pourashava end	2010345
45.	Betar road via Latif Mollah house to Charatala BMDF road	2010354
46.	Shahjalal Nursery to Bhuiyan Bari Road	2010419
47.	Buikara East Para GPS via Sarkhola GPS to Dhopadi link road	2010522
48.	Buinkora Municipal Graveyard to Dr. Akram Ali House	2010523

49.	Rana Vata at Sundoli Road via Pora Bari to Mosihati Road	2010509
50.	Seraj Tarofder house at Akterpur to Hasem Shop at Seraj Khati	2010714
51.	Jessore Khulna Highway Akij Jute Mill to Sirajkathi School	2010712
52.	Bastola of Gazipur to MSP road Sarder Bari and BMDF moar	2010822
53.	A.R. Cement Mill to Mokka Cement Mill	3010105
54.	Changutia Bazar to Bhairab River	3010209
55.	Vanga Gate via Sidiaw Textile to Bhairab River	3010106
56.	Rail Line Culvert at Mosorhati to Bhairab River	3010202
57.	Odud Sheikh House to Kazi Bablu House	3010203
58.	Along J-K Road, North Bengal Road to Dr. Julfikkar house and link road to river	3010401
59.	Ayub Sardar House to Mat (North Bengal Road)	3010402
60.	Tatul Tola Mosque to Boalmari Canal (Nursery)	3010404
61.	Bobin Factory to Rebeka Newaj House	3010405
62.	4 No Ward Last Boundary via Torikul's House to Poultry	3010406
63.	Al Helal School via Jago Babur House to Boyal Mari Main Darin	3010501
64.	Drain Beside Hospital Road	3010502
65.	WAPDA Road Drain to Principal Golam Mustafa House at Alyea Pre Cadet Road	3010601
66.	Adarsa Para to Link Road	3010602
67.	Dipok Bosti to Girls College Road	3010603
68.	Monirampur Road to Girls' School along Link Road	3010604
69.	Taltola Janie Mosque to Jessore Khulna Road Culvert	3010701
70.	In front of Ahad Mill to Gazipur Sardar Para BMDF Road	3010801
71.	North Side of Rajghat Saheb Para BMDF Road	3010901
72.	Baliadanga MSP road rail crossing to Gazibari	3010124
73.	Jessore Khulna from Pach Kobor to Bhairab River (Drain)	3010201
74.	Drain along Model College Road	3010407
75.	Moallemtola beside MSP road	3010902
76.	Moallemtola beside BMDF road	3010903
77.	Jessore khulna highway at Bengal Textile to Upazila complex (Both side drain footpath)	2010929
78.	Sharkhola Hamidul Shop at Moshihati Road to Faruque Commissioner's house side road	2010505
79.	Truck Terminal	9040007
80.	Children park	14040018
81.	Widening and improvement of Nowapara Model College road	2010424
81.	Widefing and improvement of Nowapara Woder Conege road	2010424

13.6 Strengthening of Institutional Coordination

Different institutional coordination will be developed for proper implementation of the plan. Maximum benefit will be ensured by strengthening of institutional coordination with different service providing institution. The head of different organizations are the member of TLCC. So the institutional coordination will be strengthening by exchanging their views in TLCC meeting.

13.7 Development Control

Development control is the process, laid down in legislation, which regulates the development and use of land and buildings. Development Control will be ensured by following

- Building Construction Act 1952
- Town Improvement Act 1953
- Paurashava Ordinance 1977
- Environment Conservation Act 1995
- Building Construction Rules 1996
- Play field, open space, garden and natural water bodies conservation act, 2000
- Private Residential Land Development Rules 2004

13.8 Landuse Clearance

Land use clearance will be followed by update land use map which has been prepared by the Paurashava under Urban Governance and Infrastructure Improvement Project (UGIIP).

13.9 Phasing Out of Development Proposals

Development proposals will be implemented in three phases on the basis of availability of fund. The phases are short term, midterm and long term. The very important necessary roads, drains, culverts, health and sanitation facilities projects and increasing the water supply facilities will be implement in short term phase. The development proposals and its phasing out are presented below.

13.9	Implementation Plan of Nowapara Pourashava	lan of?	Kowa	para	Pour	asha															
												1				1	1		1	1	1
17.50		Ш							Imp	lemm	aution	Year	Implementation Year (2007-2027)	3827)	1	1	1	1	1	1	1
	1100	60	8	68	10	11	13	23	4	*2	16	17	81	19	30	12	n	22	22	36	14
-	Road Network															H	H		H		
2	Bridge / Culvert					Г	Г			T	T	Н			H	H		H	Н	H	Н
100	Vehicle Terminal									T			-	+	+	+	+	╁	╀	╀	+
4	Surface Denimage														+	H		+	-		
*	Water Supply			I										+	-	-	+	-	-	-	-
9	Dumping Site									-		+	+	+	+	+	+	╁	╀	╀	+
7	Street Light								-	-		+	\vdash	+	+	+	+	╁	╀	╀	+
8	Electrica Line												\vdash	-		⊢	\vdash	+	₽	+	+
6	Telephone Line				Ī		Г					\vdash	\vdash	+	+	+	+	+	╀	+	+
10	Public Toilet										-	-	-	+	+	╁	╁	⊬	╀	1	₩
=	Satellite School									H	-		-	-	-	⊢	╁	╀	⊢	\vdash	+
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14	Pouro Market								-	-	-	+	-	\vdash	+	┝	⊢	-	╄	┡	⊬
15	Children Purk / Tourist Spot	ļ							1	-	-	\vdash	-	\vdash	-	\vdash	╁	\vdash	╄	\perp	+
16	Slum Improvement							-	H	-	+	+	H	+	+	⊦	╀	╀	₽	L	+

14. Conclusions and Uncertainties

14.1 Conclusions

An important concern for the Municipal Authority should be the distribution of costs and benefits over different social classes and different regions to maintain equity. Nowapara Paurashava "Municipal Infrastructure Development Plan with an updated Land Use Plan" not only addresses the short term needs or demands of infrastructure improvement but also it addresses the very long term needs that are forecasted by using appropriate planning tools. Hence, the Town Planning Unit of Nowapara should use it as the base of Nowapara Paurashava Master Plan. Information and recommendations furnished herewith this report should be updated in every two years to make contemporary use of it. TPU should be strengthening by increasing its manpower. Special attention should be given on the appointment of Town Planner who will actually take charges of all the planning works.

14.2 Uncertainty and Scenarios

There is always some uncertainty and scenarios associated with the forecasting of economic, demographic, political and technological developments. The uncertainty and scenarios regarding the risk management plan of MIDP described options are given below

- Reliability of data used
- Knowledge gap on problem identification
- Assumed weighting factor
- Unstable political situation
- Natural disaster

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Appendix - A

Town Planning Unit (TPU)

According to work plan of Urban Governance and Infrastructure Improvement Project (UGIIP), Nowapara Pourashava has been established a Town Planning Unit (TPU). Composition and Terms of Reference (TOR) of TPU are given below:

Composition:

□ Executive Engineer Head of the Unit

Secretary
 Member
 Medical Officer
 Assistant Engineer
 Member

□ Slum Development Officer Member

☐ Town Planner Member Secretary

Term of Reference:

- Prepare work plan for infrastructure inventory and mapping
- Prepare infrastructure inventory & mapping either by in-house arrangement or by out sourcing
- Supervise the work of infrastructure inventory and mapping
- □ Prepare Municipal Infrastructure Development Plan following infrastructure inventory and mapping
- Get the approval of Municipal Infrastructure Development Plan by Municipal Authority
- □ Supervise implementation of Municipal Infrastructure Development Plan.
- □ Update infrastructure inventory and mapping annually
- □ Enforce on continuing basis Building Construction Act 1953.
- □ Plan and implement infrastructure development including O&M.

Appendix - B

Methodology of Land Use Survey

Town Planning Unit (TPU) of Nowapara Pourashava has conducted an intensive survey on existing land use condition from October to December 2007. Due to limitation of time, it was difficult to conduct that survey on sub-component wise. So before going to the fieldwork, TPU merged the sub-component into broad categories. Beside this, it was difficult to represent land use map sub-component wise with different color. Broad headings and sub-components are presented below.

SL. No.	Use Category (Level-1)	Use Category (Level-2)	Use Category (Level-3)
1	Residential & Homestead	Planned Residential Area	Govt. Residential Quarters
			Private Residential Quarters
			Rest/Guest/Circuit House
			Banglow
			Mess
			Residential House
			Residential Reserve Area
		Unplanned Residential Area	Residential House
			Rural Homestead
			Orphanage
			Slum / Low income cluster
			Squatter
2	Commercial Activities	Wholesale Shop	Wholesale Rice Market
			Wholesale Vegetables Market
			Wholesale Fish Market
			Wholesale Paper Market
			Wholesale Grocery Goods Market
			Wholesale Fruit Market
		Retail Shop	Book Stall
			Cloths Shop
			Paper & Magazine
			Stationery Shop
			Shoe Shop
			Bag & Leather Goods
			Cosmetics
			Spectacles
			Electronic Goods
			Audio Video Cassette
			Utensils/Crockerage
			Sports Goods
			Computer Goods
			Motor Car Parts
			Jewelry shops
			Furniture Shop
			Department Store
			Mobile Sales Center

SL. No.	Use Category (Level-1)	Use Category (Level-2)	Use Category (Level-3)
			Hardware Goods
			Sweet Shop
			Bakery Shop
			Gift Shop
			Press & Printing
			Grocery Shop
			Gun Shop
			Iron & Steel Shops
			Rubber Stamps
			Phone-Fax-Photocopy
			Cycle Store
			Studio/Colour Lab
			Drug/Pharmacy
		Shopping Center/Market	Shopping Center
			Shopping Mall
			Super Market
		Show Room	Electronics
			Sports and Athletics
		Bazaar	Kitchen Market
			Katcha Bazar
		Hat	Weekly Hat
			Cattle Hat
		Storage	Cold Storage
		Warehouse	Mechanical Workshop
			Electrical Workshop
			Printing & Packaging Workshop
			Welding
		Hotel & Restaurant	Luxurious Restaurant
			Medium Restaurant
			Street Restaurant (Tea Stall)
		Motel	
		Service	Barber Shop (Saloon)
			Laundry
			Decorator
			Beauty Parlor
			Tailors
			Clearing Agent
3	Agriculture	Cropland	Single crop land
			Double crop land
		Pasture/Grazing Land	
		Orchards	
		Horticulture	
		Fisheries	
		Poultry	
		Livestock	
		Nursery Agricultural Research Area	
4	Industries	Food Manufacturing Industry	Dairy Products
"		. See Manageturing industry	Fish & Sea Food
			Salt Crushing Mill
			Soft Drink
			Bakery Product
		Textile & Garments	Cotton Textile
		. Samo a darmonto	Sator Toxago

Silk & Artificial Textille Silk & Artificial Textille Dywing Industry Hosiery Products Leather Goods & Products Leather Goods & Products Feastymade Garments Leather Florying House Floritizers Inspecticides Industry Paints & Variantee Paints & Variantee Paints & Variantee Paints & Variantee Recording Todacts Agro-based Industry Iron & Steel mills Florid & Knives Hoating & Lighting Plumbing Equipment Morahory Equipme	SL. No.	Use Category (Level-1)	Use Category (Level-2)	Use Category (Level-3)
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Chemical Industry			Leather Goods & Products	Tanning & Finishing
Pharmaceuticals Industry Chemical Industry Chemical Industry Compressed Natural Gas Fertilizers Insecticides Industry Scap & Detergent Paints & Varnishes Paper & Paper Product Industry Paper Product (all kind) Newspaper Pulp Product Packaging Plastic & Rubber Product Industry Fluip Product Glass Product Glass Product Bricks KimFleids Cement Non-Metallic Products Industry Metal Products Industry Metal Products Industry Metal Products Industry Fer ofling mills Hand & Edge tools Bland & Kinves Heating & Lighting Plumbing Equipment Machinery Equipment Machinery Equipment Machinery Equipment Furits & Vegetables Gliectrical Apparatus Agro-based Industry Fruits & Vegetables Oil Products Editle Salt Moltasses Atta, Maida and Suji Rice Mill Boiler (Rice) Handicrafts Pottery Carpets Fabrics Sewing/Hand Ioom Products Steel Furniture				Leather Buying House
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Plumbing Equipment Machinery Equipment Wire & Cables Electric Lamps Electrical Apparatus Agro-based Industry Fruits & Vegetables Oil Products Edible Salt Molasses Atta, Maida and Suji Rice Mill Boiler (Rice) Cottage Industry Handicrafts Pottery Carpets Fabrics Sewing/Hand Ioom Products Others Others Wooden Furniture Cane Furniture Steel Furniture Ship Building Lime Stone				Bland & Knives
Machinery Equipment Wire & Cables Electric Lamps Electrical Apparatus Agro-based Industry Fruits & Vegetables Oil Products Edible Salt Molasses Atta, Maida and Suji Rice Mill Boiler (Rice) Cottage Industry Handicrafts Pottery Carpets Fabrics Sewing/Hand loom Products Others Wooden Furniture Cane Furniture Steel Furniture Ship Building Lime Stone				
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Electric Lamps Electrical Apparatus Agro-based Industry Fruits & Vegetables Oil Products Edible Salt Molasses Atta, Maida and Suji Rice Mill Boiler (Rice) Cottage Industry Handicrafts Pottery Carpets Fabrics Sewing/Hand Ioom Products Others Wooden Furniture Cane Furniture Steel Furniture Ship Building Lime Stone				Machinery Equipment
Electrical Apparatus Agro-based Industry Fruits & Vegetables Oil Products Edible Salt Molasses Atta, Maida and Suji Rice Mill Boiler (Rice) Cottage Industry Handicrafts Pottery Carpets Fabrics Sewing/Hand Ioom Products Others Wooden Furniture Cane Furniture Steel Furniture Ship Building Lime Stone				
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Molasses Atta, Maida and Suji Rice Mill Boiler (Rice) Cottage Industry Handicrafts Pottery Carpets Fabrics Sewing/Hand loom Products Wooden Furniture Cane Furniture Steel Furniture Steel Furniture Ship Building Lime Stone				
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Carpets Fabrics Sewing/Hand loom Products Others Wooden Furniture Cane Furniture Steel Furniture Ship Building Lime Stone			Cottage Industry	
Fabrics Sewing/Hand Ioom Products Others Wooden Furniture Cane Furniture Steel Furniture Ship Building Lime Stone				
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Cane Furniture Steel Furniture Ship Building Lime Stone				_
Steel Furniture Ship Building Lime Stone			Others	
Ship Building Lime Stone				
Lime Stone				
Sports & Athletics				
				Sports & Athletics

SL. No.	Use Category (Level-1)	Use Category (Level-2)	Use Category (Level-3)
5	Transportation Network	Road	R & H Road
			Primary Major Road
			Access Road
			Poura Road
			Footpath (Paved)
			Footpath (Unpaved)
			Walkway
		Rail line	
		Embankment	
		Road related infrastructure/ services	Bridge, culvert, etc.
			Bus-Truck Terminal/Stand
			Bus-Truck Depot
			Transport Office
			Oil Reserve Depot/Zone
			Petrol Pump
			Rickshaw & Auto rickshaw stand
		Water related services	River port & Terminal
			Launch Terminal
			Ferry Ghat
		Rail Station	
		Air Port	
		Helipad	
6	Water Body	Rivers	
		Canals	
		Khals	
		Streams	
		Lakes	
		Pond	
		Beels	Seasonal Beel
			Perennial Beel
		Wetland/Low Lying Areas	
7.	Open Space, Recreational facilities, Historic sites	Reserve Open Space	National Park/Botanical Garden
			Zoological Park
			Forest Land
		Lade a Decreation of Cariffic	Ecological park/sites
		Indoor Recreational facilities	Cinema Hall Theater Hall
			Museum & Art gallery Women Sports Club
			Tennis Club
			Gymnasium
			Swimming Pool
		Out Door Recreational facilities	Theme Park
		Out Door Necreational racinities	Water Amusement Park
			Stadium
			Children's Park/Uddyan
			Play Ground/Play field/Play lot
			Golf Course
		Informal Recreational Open Space	Seasonal Play Ground During Dry Season
		Historical sites	Sabonaria, around buring bry Season
8	Education & Research	Kindergarten and Nursery	
0	_addation a nesedicii	Primary School	
		Primary & High School	
		High School	
		1 11917 0011001	

SL. No.	Use Category (Level-1)	Use Category (Level-2)	Use Category (Level-3)
		High School & College	
		English medium school	
		College	
		University (General)	Public University
			Private University
		Medical College	Public Medical College
			Private Medical College
		Engineering University/ College	Public
			Private
		Law College	
		Social Research	
		Health Research	
		Economic Research	
		Training Institute	Vocational Training Institute
			Physical Training Institute
			Nursing Training Institute
			Teachers Training College
			Computer Training Institute
		Madrasa	Dakhil Madrasa
			Alim Madrasa
			Fazil Madrasa
			Kamil Madrasa
			Hafezia Madrasa
		Tutorial/ Coaching Center	
		Library	
9	Service Activities	Financial Institution/Organization	Bank
			Insurance
			Mercantile & Cooperatives
			Leasing Company
			Money Exchange Center
		Professional services & Office	Construction Office
			Commercial Group Office
			Trading Corporation Office
			Security Service Office
			Law Chamber
			Doctors Chamber
			Political Party Office
			Professional's Association
		Llookh Cowings	Labor Union
		Health Services	Hospital /Clinic
			Veterinary Hospital Diagnostic Center
		Sewer System	Sewerage Office
		Sewer System	Sewerage Office Sewerage Treatment plant
		Water Supply Installation	Water Reservoir/Overhead Tank
		vvaler suppry installation	Water Reservoir/Overnead Tank Water Pump house
			Water Pump nouse Water Treatment plant
		Power Supply Installation	Power Plant
		i ower Supply Installation	Power Station
			Power Station Power House (Office)
		Waste Disposal Sites	Sanitary Landfill
		vv aste Disposal Sites	Hazardous/Unsanitary Landfill
		Gas Supply Establishment	Gas Transmission Center
		Gas Supply Establishment	
		Protective Services	Police Station

SL. No.	Use Category (Level-1)	Use Category (Level-2)	Use Category (Level-3)
			Fire Services
		Tele-communication services	Telephone Pole & Telephone Exchange
			Mobile Transmission/Tower Zone
		Postal Service	Post office
10	Community Services	Social Gathering Place	Co-operative
			Association
			Community Center
			Auditorium
			Club House
			Town Hall
11	Religious facilities	Mosque	
		Mazar/ Dargha	
		Temple	
		Church	
		Pagoda	
		Eidgah	
		Graveyard	
		Cemetery	
		Crematorium	
12	Offices	Public Offices	Zilla Parishad Office
			Deputy Commissioner's Office
			Police Superintendent Office
			Civil Serzon Office
			LGED Office
			Upazila Headquarter
			Paurashava Office
			Union Parishad Office
			Settlement Office
			Government Training Institution
			Other Government Office/Institution
		Non Government Offices	Local Operational Office of NGOs
			NGO Headquarters
			Office of International Organizations
			Training Institutions by NGO
			Foreign Mission
			Social Welfare Institution
13	Restricted Area	Radio Transmission centre/Station	
		Television Transmission	
		Centre/Station Protective Areas	BDR Station
		110000170711000	Army Station/Barak
			Navy Station
			Air Force
			BNCC
			Jailkhana
		Cantonment	
		Police Line	
		Ansar Camp	
14	Vacant Land	Barren Land	Transitional Area
17	vacant Land	Low Lying Area	
		Gravel Pits	
		Sand Quarries	
		Char Land	
		Ondi Land	

SL. No.	Use Category (Level-1)	Use Category (Level-2)	Use Category (Level-3)
15	Mixed Use	Residential - Commercial	
		Residential - Industrial	
		Residential- Office	
		Commercial - Office	
16	Miscellaneous	Barrow Pit	
		Hill	

Appendix - CUtilities and Services Standards

Туре	Description (Unit)	Standard Demand Rate
	* Electricity (Million/hour)	Per capita /day 6.5 k/h
	* Water (Million Liter)	Per capita / day 119 liter
Utility	* Gas (Million cubic feet)	Per capita /day 45 cubic feet
Othity	* Graveyard	0.45 hectare per 10,000 person
	* Garbage disposal (Metric ton)	Per capita /day 0.03 kg
	Used water drainage (Million liter)	55.12% of used water/day
	Nursery	1 per 1500 people
		0.135 hectare/nursery
	Primary School	1 per 15,000 people
		0.45 hectare/school
	Secondary School	1 per 23,00 people
		0.81 hectare/school
Services	College	1 per 50,000 people
Services		1.62 hectare/college
	Vocational Training Institute	1 per 75,000 people
		1.62 hectare/institute
	Health service / Primary Health	1 per 600 people
	Care	0.216 sq.m/establishment
	Park/open space	1 per 25000 people
		1.62 hectare/park or open space

Source: Meherpur Model Town Plan (2005)

^{* =} Daily Demand

বাংলাদেশ

গেজেট

অতিরিক সংখ্যা কর্তৃপক্ষ কর্তৃক প্রকাশিত

বুধবার, মে ১৪, ২০০৮

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার আইন, বিচার ও সংসদ বিষয়ক মন্ত্রণালয়

বিজ্ঞপ্তি

তারিখ, ৩১ বৈশাখ, ১৪১৫ বাং / ১৪ মে, ২০০৮ খ্রিঃ

নং ১৭ (মুঃপ্রঃ) ।- গণপ্রজাতন্ত্রী বাংলাদেশের রাষ্ট্রপতি কর্তৃক ২৯ বৈশাখ, ১৪১৫ বাং মোতাবেক ১২ মে, ২০০৮ খ্রিঃ তারিখে প্রণীত নিম্নে উল্লেখিত অধ্যাদেশটি এতথারা জনসাধারণের জাতার্থে প্রকাশ করা ছইল।

व्यशासन नः ३१, २००४

পৌরসভা সংক্রান্ত বিদ্যমান অধ্যাদেশ বহিত করিয়া একটি নৃতন অধ্যাদেশ প্রণয়নকল্পে প্রণীত অধ্যাদেশ

শহর পরিকল্পনা

৩২। মহাপরিকল্পনা

পৌরসভা ইহা গঠনের অথবা এই অধ্যাদেশ বলবং হইবার অনুধর্ব ৫ (পাঁচ) বংসরের মধ্যে পৌর এলাকার জন্য একটি মহাপরিকল্পনা প্রণয়ন করিবে এবং প্রচলিত বিধি বিধানের সহিত প্রণীতব্য মহাপরিকল্পনা সঙ্গতিপূর্ণ হইতে হইবে, যাহাতে অন্যান্য বিষয়ের মধ্যে থাকিবে-

- (ক) পৌর এলাকার ইতিহাস, পরিসংখ্যান, জনসেবামূলক এবং অন্যান্য নির্ধারিত বিষয়াদির বিবরণ সম্বলিত একটি জরিপ:
- (খ) পৌর এলাকার কোন স্থানের উন্নয়ন ও সম্প্রসারণ, উন্নতিসাধন: এবং
- (গ) পৌর এলাকার মধ্যে কোন এলাকায় জমির উন্নতিসাধন, ইমারত নির্মাণ বা পুনঃনির্মাণ সম্পর্কে বিধি নিষ্ণেধ ও নিয়ন্ত্রণ।

৩৩। জমির উনুয়ন প্রকল্প

- (১) তামিক ৩২ এর অধীন প্রদীত কোন মহাপরিকল্পনা নির্দ্ধারিত কর্তৃপক্ষ কর্তৃক সংশোধনীসহ, যদি থাকে, অনুমোদিত হইলে, অনুমোদিত মহাপরিকল্পনার অন্তর্ভুক্ত কোন এলাকায় কোন জমির মালিক, উক্ত এলাকার জন্য বিধি অনুযায়ী প্রণীত জমি উন্নয়্তন প্রকল্পের সহিত অসামঞ্জস্য হইলে এইরূপ মহাপরিকল্পনায় নির্ধারিত পরিমানের অধিক কোন জমির উন্নয়ন সাধন বা ইহাতে কোন ইমারত নির্মাণ অথবা পুনঃনির্মাণ করিতে পারিবে না ।
- (২) কোন জমির উল্লয়ন পরিকল্পনায় অন্যান্য বিষয়ের মধ্যে নিয়বর্ণিত বিষয়াদির বিধান থাকিবে, যথা-
 - (ক) কোন এলাকাকে বিভিন্ন প্রটে বিভক্তিকরণ:
 - (খ) রাস্তা, নর্দমা ও থালি জারগার ব্যবস্থাকরণ:
 - (গ) জনসাধারণের ব্যবহারের জন্য সংরক্ষিত এবং পৌরসভায় হস্তান্তরিত হইবে এইরূপ জমি:
 - (ম) কোন জমি পৌরসভা অধিগ্রহণ করিবে;
 - (৩) প্রটসমূহের মূল্য:
 - (চ) কোন স্থানের মালিকের খরচে সম্পাদিতব্য কার্য: এবং
 - (ছ) এলাকার উন্নতিসাধনের জন্য প্রয়োজনীয় সময়।

৩৪। জমি উনুয়দ প্রকল্প কার্যকর করা

- (১) জমি উরয়ন প্রকল্প পৌরসভার পরিদর্শনাধীন নিয়য়ণ ও বাস্তবায়িত হইবে, এবং তাহা বাস্তবায়নের বিষয়ে পৌরসভা প্রয়োজনীয় নির্দেশ প্রদান করিতে পারিবে।
 - (২) যদি জমি উন্নয়ন প্রকল্পের বিধানের লংঘন করিয়া কোন এলাকা, কোন জায়গা উন্নয়ন করা হয়,
 তাহা হইলে পৌরসভা নোটিশ ছারা জমির মালিককে অথবা বিধান খেলাপকারী ব্যক্তিকে
 নোটিশে উল্লিখিত জায়গাটিতে পরিবর্তন সাধন করিবার জন্য নির্দেশ দিতে পারিবে: এবং যদি
 নির্দেশ মোতবেক পরিবর্তন সাধন করা না হয়, তাহা হইলে পৌরসভা প্রবিধান অনুসারে
 আপত্তিকর নির্মাণ কার্য ভাঙ্গিয়া ফেলিবার নির্দেশ দিতে পারিবে এবং অন্য কোন আইনে য়াহা
 কিছুই থাকুক না কেন, ঐরপ ভাঙ্গিয়া ফেলিবার জন্য কোন ক্ষতিপূরণ প্রদেয় হইবে না এবং
 পৌরসভা কর্ত্বক ভাঙ্গিয়া ফেলা সংক্রান্ত য়াবতীয় বয়য় সংশ্লিষ্ট ব্যক্তি বা প্রতিষ্ঠান হইতে আদায়
 করা হইবে ।
- (৩) যদি জমি উন্নয়ন প্রকল্পের অন্তর্ভূক্ত কোন জমির, প্রকল্প নির্ধারিত সময়ের ময়ে, উন্নয়ন সাধন করা না হয় এবং পৌরসভা তজ্জন্য সময় বর্ধিত না করে অথবা জমিটির উন্নয়ন উক্ত প্রকল্পের সহিত সামঞ্জসয়পূর্ণ না হয়, তাহা হইলে পৌরসভা প্রবিধান অনুসারে জমিটির উন্নয়নের ভার কয়ং গ্রহণকরতঃ প্রয়োজনীয় নির্মাণ কাজ সমাধান করিতে পারিবে, এবং পৌরসভা কর্তৃক বায়িত অর্থ জমির মালিকের নিকট হইতে তাহার উপর এই অধ্যানেশের অধীন আরোপিত কর হিসাবে আলায়য়োগ্য হইবে।

Appendix - E Job Description of Town Planning Division

> গণপ্রজাতপ্তী বাংলাদেশ সরকার স্থানীয় সরকার, পল্লী উনুয়ন ও সমবায় মন্ত্রণালয় স্থানীয় সরকার বিভাগ

পৌরসভার কর্মকর্তা-কর্মচারীদের কর্মবিবরনী
(Job description)

জুন ২০০৫

(এ এইচ এম আবুল কাশেম) সচিব স্থানীয় সরকার বিভাগ ১২,১০,২০০৫

শহর পরিকল্পনা শাখা

শহর পরিকল্পনাবিদ

- তিনি পৌরসভার নির্বাহী প্রকৌশলীর তত্ত্বাবধানে থেকে তাঁর দায়িত্ব পালন করবেন।
- পৌরসভার মহাপরিকল্পনা (মাস্টার প্ল্যান) প্রণয়ন করবেন। মহাপরিকল্পনায় অন্যান্য বিষয়ের সাথে
 নিশেক্ত বিষয়সমূহ অন্তর্ভক থাকবে ঃ
 - (ক) পৌরসভার ইতিহাস, পরিসংখ্যান, জনসেবামূলক সার্ভিসসমূহ এবং নির্ধারিত অন্যান্য বিশেষ বিবরণ সম্বলিত একটি জরিপ প্রতিবেদনঃ
 - (খ) পৌর এলাকার কোন স্থানের উন্নয়ন, সম্প্রসারণ, উন্নতিসাধন সংক্রান্ত তথা:
 - (গ) পৌর এলাকায় ভূমি উন্নয়ন এবং ইমারত নির্মাণ ও পুনঃনির্মাণের ক্ষেত্রে আরোপিতব্য বিধি-নিষেধ সংক্রান্ত তথা।
- তিনি পৌরসভার উন্নয়ন সংক্রান্ত প্রস্তাব প্রণয়ন ও উর্ধ্বতন কর্তৃপক্ষের নিকট উপস্থাপন করবেন।
- তিনি নগর সংক্রান্ত উন্নয়ন কাজে সংশ্লিষ্ট অন্যান্য সংস্থার সাথে সমন্বয় রাখবেন এবং কর্তৃপক্ষকে অবহিত করবেন।
- তিনি নগর উল্লয়ন সংক্রান্ত আইন, বিধি-বিধান এবং অন্যান্য গুরুত্বপূর্ণ রেকর্ভ / প্রকাশনা সংগ্রহ
 পূর্বক প্রয়োজনীয় ব্যবস্থা গ্রহণ করবেন।
- ৬. তিনি নগর পরিকল্পনার ক্ষেত্রে পরিবেশ সংক্রান্ত বিষয়ে যথাযথ গুরুত্ব আরোপ করবেন।
- ৭. তিনি নগর উন্নয়ন ও ব্যবস্থাপনা সম্পর্কিত কর্মপরিকল্পনা বান্তবায়নের উদ্যোগ গ্রহন করবেন।
- ৮. তিনি মাস্টার প্রাান অনুযায়ী পৌর এলাকায় সকল সরকারি ও বেসরকারি পর্যায়ের স্থাপনা নির্মাণ ও সম্প্রসারণ কাজের প্রস্তাবিত নকশা পরীক্ষা করবেন, সুন্দর শহর গড়ে তোলার ক্ষেত্রে পরিবেশ বাছব হয়েছে কিনা তা খাতিয়ে দেখে যথাসময়ে অনুমোদনের ব্যবস্থা নিবেন।
- ৯. তিনি কর্তৃপক্ষ কর্তৃক অর্পিত অন্যান্য সকল দায়িত্ব যথাযথভাবে পালন করবেন।

সমাজ বিজ্ঞানী

- ১. তিনি পৌরসভার নগর পরিকল্পনাবিদের তত্ত্বাবধানে দায়িত্ব পালন করবেন।
- তিনি শহরের পরিষ্কার-পরিচ্ছন্রতা রক্ষাসহ পৌরসভার সকল কাজে পৌরবাসীর সচেতনতা বৃদ্ধিকছে
 ও আর্থ-সামাজিক কাজে এলাকা ভিত্তিক সংগঠন গড়ে তুলবেন ও প্রয়োজনীয় প্রশিক্ষণের ব্যবস্থা
 করবেন।
- তিনি শহরের পরিবেশ উন্নয়নমূলক দারিদ্র বিমোচন এবং পৌর এলাকায় নারী উন্নয়ন কর্মকান্তে প্রয়োজনীয় সহায়তা করবেন।
- তিনি পৌরসভা কর্তৃক গৃহীত অথবা গৃহীতব্য উন্নয়নমূলক কাজের আর্থ-সামাজিক দিক তুলে ধরে কর্তৃপক্ষের নিকট প্রতিবেদন / মতামত পেশ করবেন।
- ৫. তিনি শহরের ছিল্লমূল শিশু ও নারী-পুরুষদের পুনর্বাসন, সমাজসেবামূলক প্রকল্প প্রণয়ন ও বাস্ত বায়নে সহায়তা করবেন।
- তিনি উন্নয়ন কাজে ক্ষতিগ্রস্তদের জন্য পূনর্বাসন পরিকল্পনা প্রণয়ন করবেন এবং বাস্তবায়নের ব্যবস্থা
 করবেন।
- ৭, তিনি নগর পরিকল্পনা ও নগর উন্নয়নের যে কোন কাজে সহায়তা করবেন।
- ৮, তিনি শহরের বিনোদন, পর্যটনমূলক স্থাপনা নির্মাণে সহায়তা কর্বেন।
- ৯, তিনি ওয়ার্ড ভিত্তিক ঐতিহাসিক, ভৌগলিক ও সামাজিক তথ্য সংরক্ষণ করবেন।
- ১০, তিনি ছিন্নমূল শিশু, নারী-পুরুষ ও নারী উন্নয়নমূলক কাজের উপর গবেষণা করবেন এবং প্রয়োজনীয় ব্যবস্থা গ্রহনের উদ্যোগ নিবেন ।
- ১১. তিনি কর্তৃপক্ষ কর্তৃক অর্পিত অন্যান্য সকল দায়িত্ব যথাযথভাবে পালন করবেন।

Appendix - F

Open Spaces and Water Body Protection Law

বাংলাদেশ

গেজেট

অতিরিক্ত সংখ্যা কর্তৃপক্ষ কর্তৃক প্রকাশিত

সোমবার, সেপ্টেম্বর ১৮, ২০০০

বাংলাদেশ জাতীয় সংসদ

ঢাকা, ১৮ই সেপ্টেম্বর, ২০০০/৩রা আশ্বিন, ১৪০৭

সংসদ কর্তৃক গৃহীত নিংলিখিত আইনটি ১৮ই সেপ্টেম্বর, ২০০০ (৩রা আশ্বিন, ১৪০৭) তারিখে রাষ্ট্রপতির সম্মতি লাভ করিয়াছে এবং এতদ্বারা এই আইনটি সর্বসাধারণের অবগতির জন্য প্রকাশ করা যাইতেছে ঃ-

২০০০ সনের ৩৬ নং আইন

মহানগরী, বিভাগীয় শহর ও জেলা শহরের পৌর এলাকাসহ দেশের সকল পৌর এলাকার খেলার মাঠ, উন্মুক্ত স্থান, উদ্যান এবং প্রাকৃতিক জলাধর সংরক্ষণের জন্য প্রণীত আইন

যেহেতু মহানগরী, বিভাগীয় শহর ও জেলা শহরের পৌর এলাকাসহ দেশের সকল পৌর এলাকার খেলার মাঠ, উন্মুক্ত স্থান, উদ্যান এবং প্রাকৃতিক জলাধর সংরক্ষণের জন্য বিধান করা সমীচীন ও প্রয়োজনীয় ঃ সেহেতু এতদ্বারা নিংর[—]প আইন করা হইল ঃ-

- ১. সংক্ষিপ্ত শিরোনামা ও প্রবর্তন ঃ-
 - (১) এই আইন মহানগরী, বিভাগীয় শহর ও জেলা শহরের পৌর এলাকাসহ দেশের সকল পৌর এলাকার খেলার মাঠ, উন্মুক্ত স্থান, উদ্যান এবং প্রাকৃতিক জলাধার সংরক্ষণ আইন, ২০০০ নামে অভিহিত হইবে।
 - (২) সরকার, সরকারী গেজেটে প্রজ্ঞাপন দ্বারা, যে তারিখ নির্ধারণ করিবে সেই তারিখে এই আইন কার্যকর হইবে।
- ২. সংজ্ঞা বিষয় বা প্রসঙ্গের পরিপন্থী কোন কিছ না থাকিলে, এই আইনে -
 - (ক) "উদ্যান" অর্থ মাষ্টার প-্যানে বা ভূমি জরিপ নক্সায়, উদ্যান বা পার্ক হিসাবে চিহ্নিত বা সরকার কর্তৃক, সরকারী গেজেটে প্রজ্ঞাপন দ্বারা, উদ্যান বা পার্ক হিসাবে ঘোষিত কোন স্থান;
 - (খ) "উন্মুক্ত স্থান" অর্থ মাষ্টার প-্যানে উন্মুক্ত স্থান হিসাবে চিহ্নিত বা সরকার কর্তৃক, সরকারী গেজেটে প্রজ্ঞাপন দ্বারা, উন্মুক্ত স্থান হিসাবে ঘোষিত এমন স্থান যাহা দীর্ঘদিন হইতে ঈদগাহ বা অন্য কোনভাবে জনসাধারণ কর্তৃক ব্যবহার হইয়া আসিতেছে;
 - (গ) "কর্তৃপক্ষ" অর্থ রাজধানী উন্নয়নে কর্তৃপক্ষ, চট্রগ্রাম উন্নয়ন কর্তৃপক্ষ, খুলনা উন্নয়ন কর্তৃপক্ষ, রাজশাহী উন্নয়ন কর্তৃপক্ষ এবং আপাততঃ বলবৎ অন্য কোন আইনের অধীন প্রতিষ্ঠিত কোন শহর উন্নয়ন কর্তৃপক্ষ, সিটি কর্পোরেশন এবং বিভাগীয় ও জেলা শহরের পৌরসভাসহ দেশের সকল পৌরসভা;
 - (ঘ) ''খেলার মাঠ'' অর্থ খেলাধূলা বা ক্রীড়া নৈপুণ্য প্রদর্শনের জন্য মাষ্টার প-্যানে খেলার মাঠ হিসাবে চিহ্নিত জায়গা;
 - (৬) ''নির্ধারিত'' অর্থ এই আইনের অধীন প্রণীত বিধি দ্বারা নির্ধারিত ;
 - (চ) ''প্রাকৃতিক জলাধার'' অর্থ নদী, খাল, বিল, দীঘি, ঝর্ণা বা জলাশয় হিসাবে মাষ্টার প- ্যানে চিহ্নিত বা সরকার, স্থানীয় সরকার বা কোন সংস্থা কর্তৃক, সরকারী গেজেটে প্রজ্ঞাপন দ্বারা, বন্যা প্রবাহ এলাকা হিসাবে ঘোষিত কোন জায়গা এবং সলল পানি এবং বৃষ্টির পানি ধারণ করে এমন কোন ভূমিও ইহার অল্ডভূক্ত হইবে;

- (ছ) "মাষ্টার পা্রান" অর্থ রাজধানী উন্নয়ন কর্তৃপক্ষ, চট্রগ্রাম উন্নয়ন কর্তৃপক্ষ, খুলনা উন্নয়ন কর্তৃপক্ষ, রাজশাহী উন্নয়ন কর্তৃপক্ষ এবং অন্য কোন শহর উন্নয়ন কর্তৃপক্ষ বা বিভাগীয় ও জেলা শহরসহ অন্য কোন পৌরসভা প্রতিষ্ঠাকারী আইনের অধীন প্রণীত মাষ্টার পাান;
- (জ) ''শ্রেণী পরিবর্তন'' অর্থ মাষ্টার প-্যানে বা সরকারী গেজেটে সংশি-ষ্ট জায়গার অবস্থা যেভাবে উলে-খ করা হইয়াছে বা বর্ণনা করা হইয়াছে বা সংশি-ষ্ট জায়গা সাধারনতঃ যেভাবে থাকার কথা মাটি ভরাট, পাকা, আধা-পাকা বা কাঁচা ঘর-বাড়ী এবং অন্য যে কোন ধরনের ভবন নির্মাণসহ কোনভাবে সেই অবস্থার পরিবর্তন হইতে পারে এমন কিছু করাকে বুঝাইবে;
- (ঝ) ''সরকার'' অর্থ এই আইনের প্রশাসনিক মন্ত্রণালয় ;
- ত. আইনের প্রাধান্য আপাততঃ বলবৎ অন্য কোন আইনে যাহা কিছুই থাকুক না কেন, এই আইন ও
 তদধীনে প্রণীত বিধির বিধানাবলী কার্যকর থাকিবে ;
- 8. মাষ্টার প-্যানের বহুল প্রচার -
 - (১) কোন মান্টার প-ান চূড়াম্ড্ভাবে প্রণয়নের পর উহার কপি উক্তরূপ প্রণয়নের তারিখ হইতে অন্যুন এক মাসের মধ্যে কর্তৃপক্ষের হেড অফিস এবং শাখা অফিস, যদি থাকে, এর নোটিশ বোর্ডে এমনভাবে লটকাইয়া রাখা হইবে যাহাতে উহা যথাসময়ে সংশি- ষ্ট এলাকার জনসাধারণের দৃষ্টি আকর্ষণ করে।
 - (২) কর্তৃপক্ষ তৎকর্তৃক নির্ধারিত মূল্যে মাষ্টার প-ানের মুদ্রিত কপি বা মাষ্টার প-ানের এলাকাভিত্তিক নক্সা জনসাধারণের বিক্রির ব্যবস্থা করিবে।
 - (৩) সংশি- ষ্ট কর্তৃপক্ষ যথাযথ বিবেচিত অন্য যে কোন পদ্ধতিতে মাষ্টার প-ান এবং তৎসূত্রে জনগণের দায়িত্ব ও কর্তব্য সম্পর্কে বহুল প্রচারের ব্যবস্থা করিবে ;
- ৫. খেলার মাঠ, উন্মুক্ত স্থান, উদ্যান ও প্রাকৃতিক জলাধারের শ্রেণী পরিবর্তনে বাধা নিষেধ এই আইনের বিধান অনুযায়ী ব্যতীত, খেলার মাঠ, উন্মুক্ত স্থান, উদ্যান এবং প্রাকৃতিক জলাধার হিসাবে চিহ্নিত জায়গার শ্রেণী পরিবর্তন করা যাইবে না বা উক্তরূপ জায়গা অন্য কোনভাবে ব্যবহার করা

যাইবে না বা অনুর^{ক্র}প ব্যবহারের জন্য ভাড়া , ইজারা বা অন্য কোনভাবে হস্পুস্পুর করা যাইবে না ; ব্যাখ্যা ঃ- এই ধারার উদ্দেশ্য পূরণকল্পে কোন উদ্যানের মৌলিক বৈশিষ্ট্য নষ্ট হয় এইরূপে উহার বৃক্ষব্যাক্তি নিধনকে উদ্যানটির শ্রেণী পরিবর্তন রূপে গন্য করা হইবে।

- ৬. জায়গার শ্রেণী পরিবর্তনের আবেদন, ইত্যাদি -
 - (১) ধারা ৫-এ বর্ণিত কোন জায়গা বা জায়গার অংশবিশেষের শ্রেণী পরিবর্তন করার প্রয়োজন হইলে উক্ত জায়গার মালিক, প্রস্ঞাবিত পরিবর্তনের কারণ লিপিবদ্ধ করিয়া, সংশি- ষ্ট কর্তৃপক্ষের মাধ্যমে সরকারের নিকট আবেদন করিবেন।
 - (২) উপ-ধারা (১) এর অধীন আবেদনপত্র প্রাপ্তির ৬০ দিনের মধ্যে কর্তৃপক্ষ আবেদনপত্রটি বিবেচনা করিয়া আবেদনাধীন জায়গার শ্রেণী পরিবর্তন জনস্বার্থে সমীচীন হইবে কিনা সেই সম্পর্কে, অন্যান্যের মধ্যে, নিংবর্ণিত বিষয়ের উপর সুস্পষ্ট মতামত এবং সুপারিশ সহকারে আবেদনটি সরকার বরাবরে প্রেরণ করিবে, যথা ঃ
 - (ক) আবেদনাধীন জায়গার শ্রেণী পরিবর্তন করা হইলে মাষ্টার প-ানের উদ্দেশ্য ক্ষতিগ্রস্থ হইবে কিনা, হইলে উহার পরিমাণ, এবং
 - (খ) শ্রেণী পরিবর্তনের কারণে সংশি-ষ্ট এলাকার পরিবেশের উপর কোন ক্ষতিকর প্রভাব পড়িবে কিনা বা বসবাসকারীগণের অন্য কোন প্রকার ক্ষতি হইবার সম্ভাবনা আছে কি না।
 - (৩) শ্রেণী পরিবর্তনের জায়গা যদি সরকারী, স্থানীয় কর্তৃপক্ষ, বিধিবদ্ধ সংস্থা বা কোম্পানীর হয় সেক্ষেত্রে ও এই ধারার বিধানাবলী একইভাবে প্রযোজ্য হইবে।
 - (৪) উপ-ধারা (২) এর অধীন মতামত এবং সুপারিশ প্রদানের সুবিধার্থে সংশি- ষ্ট কর্তৃপক্ষ আবেদনকারীর নিকট হইতে এতদ্সংশি- ষ্ট প্রয়োজনীয় তথ্য ও দলিল চাহিতে পারিবে এবং আবেদনকারী উক্তরূপ তথ্য ও দলীল এতদুদ্দেশ্য কর্তৃপক্ষ কর্তৃক নির্ধারিত সময়সীমা, যাহা নোটিশ প্রাপ্তির তারিখ হইতে অন্যুন ১৫ দিন হইবে, এর মধ্যে সরবরাহ করিতে বাধ্য থাকিবে।
 - (৫) এই ধারার অধীন কোন আবেদন গ্রহণ করা হইবে না যদি উহার সহিত নির্ধারিত ফিস কর্তৃপক্ষের বরাবরে নির্ধারিত পদ্ধতিতে জমা করার রসিদ সংযুক্ত করা না হয়।

৭. আবেদনপত্র নিষ্পত্তি -

(১) ধারা ৬-এর অধীন আবেদনপত্র প্রাপ্তির ৬০ দিনের মধ্যে সরকার, সংশি-ষ্ট কর্তৃপক্ষের মতামত এবং সুপারিশ বিবেচনা করিয়া, আবেদনের উপর সিদ্ধাম্দ্র প্রদান করিবে এবং আবেদনকারীকে সিদ্ধাম্দ্র প্রদানের তারিখ হইতে ১৫ দিনের মধ্যে উক্ত সিদ্ধাম্দ্র লিখিতভাবে অবহিত করিবে:

তবে শর্ত থাকে যে, আবেদনপত্রটি অননুমোদন করার বিষয়ে সিদ্ধান্দ্র গ্রহণ করা হইলে, আবেদন প্রাপ্তির ৯০ দিনের মধ্যে সরকার আবেদনকারীকে শুনানীর সুযোগ প্রদান করিবে।

- (২) উপ-ধারা (১) এ প্রদত্ত সিদ্ধান্শেড় সংক্ষুদ্ধ আবেদনকারী সিদ্ধান্শড় সম্মলিত স্বাক্ষর বা নোটিশ প্রাপ্তির তারিখ হইতে ৩০ দিনের মধ্যে সরকার বরাবরে উহার সিদ্ধান্শড় পুনবিবেচনা করিবার জন্য আবেদন করিতে পারিবে।
- (৩) উপ-ধারা (২) এর অধীন সিদ্ধাম্জ পুনবিবেচনার কোন আবেদন গ্রহণযোগ্য হইবে না যদি উহার সহিত নির্ধারিত ফিস সরকার বরাবরে নির্ধারিত পদ্ধতিতে জমা করার রসিদ সংযুক্ত করা না হয়।
- (৪) উপ-ধারা (৩) এর অধীন প্রদত্ত আবেদনের উপর সরকারের সিদ্ধান্দ্র চূড়ান্দ্র হইবে।

৮. শাম্ডি, ইত্যাদি -

- (১) কোন ব্যাক্তি এই আইনের কোন বিধান লঙ্খন করিলে তিনি অনধিক ৫ বৎসরের কারাদন্ডে বা অনধিক ৫০ (পঞ্চাশ) হাজার টাকা অর্থ দন্ডে অথবা উভয় দন্ডে দন্ডনীয় হইবেন।
- (২) ধারা ৫ এর বিধান লব্জ্যন করিয়া যদি কোন জায়গা বা জায়গার অংশ বিশেষের শ্রেণী পরিবর্তন করা হয়, তাহা হইলে সংশি-ষ্ট কর্তৃপক্ষ নোটিশ দ্বারা জমির মালিককে অথবা বিধান লব্জ্যনকারী ব্যাক্তিকে নোটিশে উলে-খিত জায়গার শ্রেণী পরিবর্তনের কাজে বাধা প্রদান করিতে পারিবে এবং নির্ধারিত পদ্ধতিতে অননুমোদিত নির্মাণকার্য ভাংগিয়া ফেলিবার নির্দেশ দিতে পারিবে এবং অন্য কোন আইনে যাহা কিছুই থাকুক না কেন, উক্তরূপ ভাংগিয়া ফেলিবার জন্য কোন ক্ষতিপূরণ প্রদেয় হইবে না।

- (৩) এই আইনের বিধান লঙ্ঘন করিয়া যদি কোন নির্মাণকার্য সম্পাদিত যা অবকাঠামো তৈরী হইয়া থাকে সেই সকল অবকাঠামো আদালতের আদেশে সংশি- ষ্ট কর্তৃপক্ষের বরাবরে বাজেয়াপ্ত হইবে।
- ৯. অর্থদন্ড আরোপের ক্ষেত্রে কতিপয় ম্যাজিষ্টেটের বিশেষ ক্ষমতা (Code of Criminal Procedure 1898 (Act. V of 1898) এ ভিন্নতর যাহা কিছুই থাকুক না কেন, কোন ব্যাক্তির উপর ধারা ৮ এর অধীনে অর্থদন্ড আরোপের ক্ষেত্রে একজন প্রথম শ্রেণীর ম্যাজিষ্ট্রেট বা মেট্রোপলিটন এলাকায় মেট্রোপলিটন ম্যাজিষ্ট্রেট উক্ত ধারায় উলি-খিত অর্থদন্ড আরোপ করিতে পারিবেন।
- ১০. সরল বিশ্বাসে কৃত কাজকর্ম রক্ষণ এই আইন বা বিধির অধীনে সরল বিশ্বাসে কৃত কোন কাজের ফলে কোন ব্যাক্তি বা প্রতিষ্ঠান ক্ষতিগ্রস্থ হইলে বা ক্ষতিগ্রস্থ হইবার সম্ভাবনা থাকিলে তজ্জন্য কর্তৃপক্ষের বা ক্ষেত্রমত, চেয়ারম্যান বা প্রধান নির্বাহী কর্মকর্তা বা কর্তৃপক্ষের অন্য কোন কর্মকর্তা বা অপর কর্মচারী বা কোন ব্যাক্তির বির^{ক্র}দ্ধে কোন আইনগত কার্যক্রম গ্রহণ করা যাইবে না।
- ১১. কোম্পানী কর্তৃক অপরাধ সংঘটন এই আইনের অধীন কোন বিধান লজ্ঞ্যনকারী ব্যাক্তি যদি কোম্পানী হয়, তাহা হইলে উক্ত কোম্পানীর মালিক, পরিচালক, ম্যানেজার, সচিব বা অন্য কোন কর্মকর্তা বা এজেন্ট বিধানটি লজ্খন করিয়াছেন বলিয়া গণ্য হইবে, যদি না তিনি প্রমাণ করিতে পারেন যে, উক্ত লজ্খনে তাঁহার অজ্ঞাতসারে হইয়াছে অথবা উক্ত লজ্খন রোধ করিবার জন্য তিনি যথাসাধ্য চেষ্টা করিয়াছেন।

ব্যাখ্যা ঃ- এই ধারায় -

- (ক) ''কোম্পনী'' বলিতে কোন সংবিধিবদ্ধ সংস্থা, বাণিজ্য প্রতিষ্ঠান ও সমিতি বা সংগঠনকেও বুঝাইবে।
- (খ) বাণিজ্য প্রতিষ্ঠানের ক্ষেত্রে, ''পরিচালক'' বলিতে উহার কোন অংশীদার বা পরিচালনা বোর্ডের সদস্যকেও বুঝাইবে।

১২. অপরাধ বিচারার্থে গ্রহণ, ইত্যাদি

- (১) কর্তৃপক্ষের চেয়ারম্যান বা প্রধান, যে নামেই অভিহিত হউক না কেন, বা তাহার নিকট হইতে ক্ষমতাপ্রাপ্ত কোন ব্যাক্তির লিখিত অভিযোগ ছাড়া কোন আদালত এই আইনের অধীন কোন অপরাধ বিচারের জন্য গ্রহণ করিবে না।
- (২) অন্য কোন আইনে যাহা কিছুই থাকুক না কেন, এই আইনের অধীন দন্ডনীয় অপরাধ আমলযোগ্য বা ধর্তব্য (Congnizable) অপরাধ হইবে।
- ১৩. বিধি প্রণয়নের ক্ষমতা সরকার, সরকারী গেজেটে প্রজ্ঞাপন দ্বারা, এই আইনের উদ্দেশ্য পূরণকল্পে বিধি প্রণয়ণ করিতে পারিবে।

কাজী মুহম্মদ মনজুরে মওলা সচিব।

মোঃ আবদুল করিম সরকার (উপ-সচিব), উপ-নিয়ন্ত্রক, বাংলাদেশ সরকারী মুদ্রণালয়, ঢাকা কর্তৃক
মুদ্রিত। মোঃ আমিন জুবেরী আলম, উপ-নিয়ন্ত্রক, বাংলাদেশ ফরমস ও প্রকাশনা অফিস, তেজগাঁও,
ঢাকা কর্তৃক প্রকাশিত।

Appendix - G

Bangladesh Gazette for Nowapara Pourashava Boundary

বাংলাদেশ গেজেট

অতিরিক্ত সংখ্যা কর্তৃপক্ষ কর্তৃক প্রকাশিত

বৃহস্পতিবার, জুলাই ২, ১৯৯৮

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
স্থানীয় সরকার, পল্মী উন্নয়ন ও সমবায় মন্ত্রণালয়
স্থানীয় সরকার বিভাগ
(শাখা-পৌর-২)

প্রজ্ঞাপন

তারিখ; ৮ই জুন ১৯৯৮ / ২৫শে জ্যৈষ্ঠ ১৪০৫

[উপরোক্ত উৎস থেকে নওয়াপাড়া পৌরসভার সীমানা গ্রহন করা হয়েছে।]

নওয়াপাড়া পৌরসভা কার্যালয় অভয়নগর, যশোর।

ওয়ার্ড নং	ওয়ার্ড ভুক্ত এলাকার সীমানা
٥)	বালিয়াডাংগা মৌজা, আলমডাংগা মৌজা, মহাকাল মৌজ, পৌর সভাভুক্ত সকল দাগ।
02	লক্ষ্মীপুর মৌজা, কাপাশহাটি মৌজা, মশরহাটি মৌজা, নওয়াপাড়া মৌজা (অংশ)-সুজাউদ্দিন মিয়া'র বাড়ীর পার্শ্ব দিয়া ধোপাদী রাস্ড়া বরাবর উত্তরাংশ।
೦೨	ধোপাদী মৌজা, বুইকরা মৌজা (পশ্চিমপাড়া)।
08	নওয়াপাড়া মৌজা (অংশ)-২নং ওয়ার্ডভুক্ত নওয়াপাড়া মৌজার দাগসমূহ ব্যতীত বাকী সকল দাগ।
o¢	(ক) বুইকরা মৌজা (অংশ)-৩ ও ৭ নং ওয়ার্ডভুক্ত বুইকরা মৌজার দাগ সমূহ ব্যতীত বাকী সকল দাগ। (খ) গোয়াখুলা মৌজা (অংশ)-নুরবাগ হইতে গনি মোড়লের গলি দিয়া নদী পর্যন্দ্র গোয়াখোলা মৌজার উত্তরাংশ এবং নুরবাগ হইতে হাসপাতাল রোডের দিকে যাইতে গোয়াখোলা মৌজার উত্তরাংশ।
૦৬	গোয়াখোলা মৌজা (অংশ) ৫ নং ওয়ার্ডভূক্ত গোয়াখোলা মৌজার দাগসমূহ ব্যতীত বাকী সকল দাগ।
09	(ক) বুইকরা মৌজার (অংশ)-শ্যামলের ইটের ভাটা হইতে উত্তর পূর্বে কলোনীপাড়া অর্থাৎ হাসেম এর বাড়ীর পার্শ্বের রাস্ড্র হইতে আলী হোসেনের বাড়ী পর্যস্ড্র রাস্ড্র দ্বারা বিভক্ত বুইকরা মৌজার পূর্বাংশ এবং শ্যামলের ইটের ভাটা হইতে দক্ষিণে গৌরদের বাড়ী পর্যস্ড্র বুইকরা এর অংশ যাহা কামারপাড়া নামে পরিচিত। সিরাজ কাটি মৌজা, দুর্গাপুর মৌজা একতারপুর।
ОЪ	জাফরপুর মৌজা, সাভারপাড়া মৌজা, রাজঘাট মৌজা (অংশ)-রেল লাইন দ্বারা বিভক্ত। রাজঘাট মৌজার দক্ষিণ-পশ্চিমাংশের সকল দাগ।
০৯	রাজঘাট মৌজা (অংশ)-৮ নং ওয়ার্ডভুক্ত রাজঘাট মৌজার দাগসমূহ ব্যতীত বাকী সকল দাগ।

নওয়াপাড়া পৌরসভা কার্যালয় অভয়নগর, যশোর।

ক্রমিক নং	মৌজার নাম	জে.এল নং	সিট নং
٥	মহাকাল	৬৩	২,৩
ર	বালিয়াডাংগা (অংশ)	৬২	১,২
O	আমডাংগা (অংশ)	৬8	২
8	লক্ষ্মীপুর (অংশ)	৭৩	১,২
¢	মশুরহাটি	9¢	১,২
৬	কাপাশহাটি	98	2
٩	ধোপাদি (অংশ)	૧૨	0,8,6
Ь	নওয়াপাড়া	৭৬	১,২
8	বুইকরা (অংশ)	99	১,২,৩
20	গোয়াখোলা	96	۶
22	দুর্গাপুর	৭৯	۶
১২	সিরাজকাটি	ьо	۶
20	একতারপুর (অংশ)	৮৬	১,২
28	জাফরপুর	৮৭	۶
26	সাবারপাড়া (অংশ)	৮৯	۶
১৬	রাজঘটি	bb	১,২
মোট	-	-	২৭

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার থানা নির্বাহী অফিসারের কার্যালয়, অভয়নগর, যশোর।

স্মারক নং- ২১৪

তারিখ ঃ- <u>১৭/০৫/১৯৯৮ ইং</u> ০৩/০২/১৪০৫ বাং

গণ বিজ্ঞপ্তি

পৌরসভা অধ্যাদেশ ১৯৭৭ এর ২১(২) নং ধারায় প্রদত্ত ক্ষমতাবলে নওয়াপাড়া পৌরসভাভূক্ত এলাকাকে নিম্নোক্ত "ক ছক" মোতাবেক ৯ (নয়) টি এবং "খ ছক" মোতাবেক মহিলা কমিশনারের সংরক্ষিত আসনের জন্য ৩(তিন) টি ওয়ার্ডে বিভক্ত করিয়া প্রাথমিক তালিকা প্রকাশ করা হলো ঃ-

"ছক-ক"

ওয়ার্ড নং	ওয়ার্ডের সাথে অস্তর্ভূক্ত এলাকার বর্ণনা
	(ক) বালিয়াডাংগা মৌজা - পৌর সভাভুক্ত সকল দাগ।
	(খ) আলমডাংগা মৌজা - পৌর সভাভুক্ত সকল দাগ।
٥)	(গ) মহাকাল মৌজা - সকল দাগ।
	(ক) লক্ষ্মীপুর মৌজা -পৌর সভাভুক্ত সকল দাগ।
	(খ) কাপাশহাটি মৌজা -সকল দাগ।
०२	(গ) মশরহাটি মৌজা -সকল দাগ।
	(ঘ) নওয়াপাড়া মৌজা (অংশ) - সুজাউদ্দিন মিয়া এর বাড়ীর পার্শ্ব দিয়া ধোপাদী রাস্ড্র বরাবর উত্তরাংশ
	এস,এ দাগ নং- ১-১০৭, ৩১৮-৫৪৬, ৫৫০-৬০১ ও ৭২৬-৭৩৭।
	(ক) ধোপাদী মৌজা -পৌর সভাভুক্ত সকল দাগ।
೦೦	(খ) বুইকরা মৌজা (পশ্চিমপাড়া) এস,এ দাগ নং- ৯৮৭, ৯৮৮, ৯৯৪, ৯৯৫, ৯৯৭, ৯৯৮, ৯৯৯,
	১০০০, ১০০১ ও ১০০৩।
08	(ক) নওয়াপাড়া মৌজা (অংশ)- ২নং ওয়ার্ডভুক্ত নওয়াপাড়া মৌজার দাগসমূহ ব্যতীত বাকী সকল দাগ।
	 (ক) বুইকরা মৌজা (অংশ)-৩ ও ৭ নং ওয়ার্ডভুক্ত বুইকরা মৌজার দাগ সমূহ ব্যতীত বাকী সকল দাগ।
00	(খ) গোয়াখুলা মৌজা (অংশ)-নুরবাগ হইতে গনি মোড়ুলের গলি দিয়া নদী পর্যন্দ্র গোয়াখোলা মৌজার
	উত্তরাংশ এবং নুরবাগ হইতে হাসপাতাল রোডের দিকে যাইতে গোয়াঝোলা মৌজার উত্তরাংশ
	এস,এ দাগ নং- ১-৬, ৩৮-৪৭, ৬৯, ১৮৪, ১৯৭, ১৯৯, ২২৯, ২১১, ৬৬৮, ৬৯৬, ৬৯৭।
০৬	(ক) গোয়াখোলা মৌজা (অংশ) ৫ নং ওয়ার্ডভুক্ত গোয়াখোলা মৌজার দাগসমূহ ব্যতীত বাকী সকল দাগ
०१	(ক) বুইকরা মৌজার (অংশ)-শ্যামলের ইটের ভাটা হইতে উত্তর পূর্বে কলোনী পাড়া অর্থাৎ হাসেম এর
	বাড়ীর পার্শ্বের রাস্ড্র হইতে আলী হোসেনের বাড়ী পর্যস্ড্র রাস্ড্র দ্বারা বিভক্ত বুইকরা মৌজার পূর্বাংশ

	এবং শ্যামলের ইটের ভাটা হইতে দক্ষিণে গৌরদের বাড়ী পর্যন্ড বুইকরা এর অংশ যাহা কামারপাড়া
	নামে পরিচিত। এস, এ দাগ নং- ৩২৮০-৩৪১৫।
	(খ) সিরাজকাটি মৌজা - সকল দাগ
	(গ) দুর্গাপুর মৌজা - সকল দাগ
	(ঘ) একতারপুর - পৌরসভা ভূক্ত সকল দাগ।
	(ক) জাফরপুর মৌজা।
ob	(খ) সাভারপাড়া মৌজা- পৌরসভা ভূক্ত সকল দাগ।
	(গ) রাজঘাট মৌজা (অংশ)-রেল লাইন দ্বারা বিভক্ত।
	রাজঘাট মৌজার দক্ষিণ-পশ্চিমাংশের সকল দাগ। এস, এ দাগ নং- ১২৪৭-১২৫৯, ১২৫৬-১২৫৮,
	১২৬১, ১২৬৪-১২৭১, ১২৭৭-১২৮১, ১৩৪০, ১৩৪১, ১৩৪৩-১৩৪৬, ১৩৬৭-১৩৭০, ১৩৪৯ ও
	১৫২৫, ১৫৪৬-১৬০৯, ১৯৮১-২০৩১, ২০৪৬-২০৫০, ২৬০, ২৬৪, ২৬৫, ২৬৬, ২৭৬, ২৭৭,
	২৭৮, ২৭৯, ২৮৬, ২৮৭, ২৮৯, ২৯৬, ২৯৭, ৩০৪, ৩০৬।
০৯	(ক) রাজঘাট মৌজা (অংশ)-৮ নং ওয়ার্ডভুক্ত রাজঘাট মৌজার দাগসমূহ ব্যতীত বাকী সকল দাগ।

"ছক- খ"
(মহিলা কমিশনার এর সংরক্ষিত আসন)

ওয়ার্ড নং	ওয়ার্ডের সাথে অম্ভূর্ক্ত এলাকার বর্ণনা
	(ক) বালিয়াডাংগা মৌজা (অংশ) (খ) আমডাংগা মৌজা (অংশ) (গ) মহাকাল মৌজা
٥\$	্থি) লক্ষ্মীপুর মৌজা (অংশ) (ঙ) কাপাশহাটি মৌজা (চ) মশরহাটি মৌজা (ছ) নওয়াপাড়া মৌজা (অংশ)-উপরে "ক ছকে" বর্নিত ১,২ ও ৩ নং ওয়ার্ডভুক্ত এলাকা।
०२	কে) নওয়াপাড়া মৌজা (অংশ) (খ) বুইকরা মৌজা (অংশ) (গ) গোয়াখোলা মৌজা উপরে "ক ছকে" বর্নিত ৪,৫ ও ৬ নং ওয়ার্ডভুক্ত এলাকা।
૦૭	(ক) বুইকরা মৌজা (অংশ) (খ) সিরাজকাটি মৌজা । (গ) দুর্গাপুর মৌজা (ঘ) একতারপুর মৌজা (অংশ) (ঙ) জাফরপুর মৌজা (চ) সাভারপাড়া মৌজা (অংশ) (ছ) রাজঘাট মৌজা ।

উপরের "ক এবং খ ছক" মোতাবেক নওয়াপাড়া পৌরসভার ওয়ার্ড বিভক্তকরণ সম্পর্কে কাহারো কোন আপত্তি বা পরামর্শ থাকিলে তাহা অত্র বিজ্ঞপ্তি প্রকাশের ১৫ (পনের) দিনের মধ্যে নিম্ন স্বাক্ষরকারীকে লিখিতভাবে জানানোর জন্য অনুরোধ করা হইল।

১৭/০৫/৯৮ ইং

(মুহাম্মাদ আবদুল কুদ্দুস) থানা নির্বাহী অফিসার অভয়নগর, যশোর। ও ডেলিমিটেশন অফিসার, নওয়াপাড়া পৌরসভা।

Appen	ndix-H : Rules of Pourashav	va La	nd U	se A _l	prov	al										
		Planning Zone									Restricted Zone					
Description Approved-P Conditional Approved-C Review Required-R Prohibited-N		Flood flow zone (MFF)	Sub- Flood flow zone (SFF)	Water Supply Protection zone (WSP)	Planned mixed land use (MXP)	Spontaneous mixed land use (MXS)	Less risk prone industry area (ILZ)	Medium risk prone industrial area (MXZ)	Open spaces (O/S)	Air port area (AZ)	Flood Control zone (FCZ)	Military establishment (MEZ)	Road/Utility spaces (RUZ)	Special category land use (SPZ)		
Gross Land- Use Type	Particular land use type	1	2	3	4	5	6	7	8	9	10	11	12	13		
	Pucca house and homestead	N	P	P	P	P	N	N	N	N						
	Semi-pucca house and homestead	N	С	N	P	Р	N	N	N	N						
ial	Kutcha house/ hut	N	R	N	P	P	N	N	N	N						
Residential	Residential Hotel/motel/ guest house	N	N	N	P	P	С	N	N	N						
Re	Commercial cum residential building	N	N	N	R	R	N	N	N	N						
	Planned Residential estate	N	N	N	R	R	N	N	N	N						
ity	College/University	N	N	N	R	R	N	N	N	N						
acil	Govt. School	N	N	N	P	P	N	N	N	N				-		
th F	Non-Govt. School	N	N	N	С	С	N	N	N	N						
neal	Madrasah/Orphanage	N N	R P	R N	P P	P P	P P	N N	N N	N N				-		
nd I	Child hospital Maternal Hospital/Clinic	N	N	N	P	P	N	N	N	N				+		
าก ลา	Mental Clinic	N	N	N	P	P	N	N	N	N				+		
Education and health Facility	Govt. Hospital with morgue	N	N	N	R	R	N	N	N	N						
Edu	Medical College	N	N	N	R	R	N	N	N	N						
	Cantonment	N	N	N	N	N	N	N	P	P				+		
	Jail/Custody	N	N	N	N	N	N	N	P	P						
rea	Police station	N	N	N	N	N	N	N	P	P						
Restricted Area	Ansar Camp	N	N	N	P	P	N	N	N	N						
icte	River port	N	R	N	R	R	R	R	R	N						
estr	Brick field	P	P	P	N	N	N	N	N	N						
Ž.	Godown Waste Dumping Site	P N	P N	P N	P N	P N	P R	P R	P R	P N				+		
	Fire Brigade	N	N	C	P	P	C	C	C	N				+		
ace	Agriculture, Forestry and Grazing land	P	P	Р	N	N	N	N	N	P						
	Hatcheries, Livestock, Poultry farm	P	P	N	N	С	С	N	N	P						
n S _l	Water retention pond	N	N	N	P	P	P	P	P	P						
Open Space	Recreation/Play field	С	P	C	P	P	P	N	N	R						
J	Orchard/nurseries	P	P	P	N	N	N	N	N	P						

Govt. Buildings/Area	Agriculture research Institute	P	P	P	N	N	N	N	N	P		
Govt. dings//	Govt establishments	N	N	С	P	P	С	С	С	N		
Gildi	Railway land	N	N	N	N	N	N	N	N	P		
Bu	EPZ	N	N	N	N	N	R	С	P	P		
ا	Eid Gah	С	p	С	P	P	P	N	N	R		
uno.	Stadium	С	р	С	P	P	P	N	N	R		
ے کے	Political meeting place	С	p	C	P	P	P	N	N	R		
	Club	N	N	N	С	С	С	С	С	P		
Assembly Ground	Grave yard	N	N	N	С	С	С	С	С	P		
_ ▼	Bus terminal/public space	С	P	p	P	P	P	P	P	С		
Industrial Area	Ecological hazardous (Chemical/ metal) heavy industrial site	N	N	N	N	N	N	N	N	N		
ıdustr	Agro based industrial ground	N	С	N	N	N	N	N	N	P		
I II	Factory with hand loom machine	N	С	N	С	С	P	P	P	N		
	Retail shops, restaurant	N	N	С	R	R	R	R	N	N		
	Market place	N	N	N	R	R	R	N	N	N		
ctivit	Petrol pump	N	N	С	N	С	С	P	N	N		
Service Activity	Parking place											
Servi	Light manufacturing/ repairing shop	N	P	N	P	P	P	P	P	N		
	Temporary factory	N	С	N	P	P	P	P	P	N		
	Overhead tank	N	P	P	P	P	P	P	P	N		
T	ROW (Road)	N	P	P	P	P	P	P	P	N		
Utility Service Activity	Gas supply pipeline	N	P	P	P	P	P	P	P	N		
	Drainage	N	P	P	P	P	P	P	P	N		
Jtility S	Electric pole	P	С	С	С	С	С	С	С	N		
נ	Telephone Pole	P	С	С	С	С	С	С	С	N		

Appendix - I

Press Clippings

Newspaper: The Daily Ittefaq

Date: August 6, 2007



নওয়াপাড়া পৌরসভা কার্যালয়,

অভয়নগর, যশোর।

বিশেষ বিজ্ঞপ্তি

সম্মানিত পৌরবাসীর সদয় অবগতির জন্য জানানো যাচেছ যে, এশীয় উনুয়ন ব্যাংক (ADB) এবং বাংলাদেশ সরকার (GoB)- এর আর্থিক সহায়তায় স্থানীয় সরকার প্রকৌশল অধিদন্তর ও নতয়াপাড়া পৌরসভা কর্তৃক বর্তমানে অত্র পৌরসভায় নগর পরিচালন ও অবকাঠামো উনুক্তিকরণ প্রকল্প (UGIIP) বাস্তবায়নাধীন আছে। এই প্রকল্পের অন্যতম একটি উদ্দেশ্য হলো পৌর এলাকার জন্য ২০ বছর মেয়ানী মাস্টার প্ল্যান প্রণয়ন করা। ইতোমধ্যে মাস্টার প্লান প্রথমনের জন্য বিভিন্ন প্রকার তথ্য সংগ্রহের কাজ শেষ হয়েছে। মাস্টার প্ল্যানের একটি ওরুত্পূর্ণ অংশ হচ্ছে ভূমি ব্যবহার পরিকল্পনা। খুব দ্রুত পৌর এলাকার মধ্যে ভূমি ব্যবহার জরিপ তরু হচ্ছে। ভূমি ব্যবহারের (Land Use) আওতায় সরকারী ও বেসরকারী প্রতিষ্ঠান, শিক্ষা প্রতিষ্ঠান, বাণিজ্যিক এলাকা, শিল্পকারখানা, মসজিদ, মন্দির, পার্ক, খেলার মাঠ, সড়ক, ছেন, নদী, পুকুর, কবরখানা, আবাসিক ও কৃষি জমিসহ সর্বপ্রকার ভূমির বর্তমান ও ডবিষ্যৎ ব্যবহার সম্পর্কিত বিষয়গুলি অন্তর্ভুক্ত থাকবে। ভূমি ব্যবহার জরিপ চলাকালীণ সময়ে পৌর এলাকার সকল সরকারী, বেসরকারী প্রতিষ্ঠানসহ পৌরবাসীকে ছবিপ দলকে ভূমি ব্যবহার সংক্রাপ্ত সকল প্রকার তথ্য দিয়ে সহযোগিতা করার জন্য জনুরে/ধ জানানো যাচছে। পৌরসভা কর্তৃক গ্রন্তককৃত ভূমি ব্যবহার পরিকল্পনায় যেখানে আবাসিক এলাকা দেখানো থাকরে ভবিষ্যতে সেখানে আবাসিক এলাকা সম্পর্কিত কার্যক্রম ছাড়া অন্য থেকোন কার্যক্রম অনুমোদন করা হবে না। একইভাবে ভূমি ব্যবহার পরিকল্পনায় যেখানে বাণিজ্যিক এলাকা দেখানো থাকবে সেখানে বাণিজ্যিক কার্যক্রম ছাড়া অন্য যে কোন কার্যক্রম অনুমোদন করা হবে না। অনুরূপভাবে একই নিয়ম অন্যান্য ব্যবহারের ক্ষেত্রেও প্রযোজ্য হইবে। সেক্ষেত্রে কোন ব্যক্তি বিশেষ বা প্রতিষ্ঠানের যদি কোন বৃহৎ পরিকল্পনা থাকে তবে তার বিস্তারিত বিবরণসহ অতি দ্রুত পৌরসভার নির্বাহী প্রকৌশলী মহোলরের নিকট জমা দেওয়ার জন্য অনুরোধ করা হলো। একই সাথে মাস্টার প্র্যান কাজে সর্বাত্মক সহযোগিতা করার জন্য পৌরবাসীকে অনুরোধ করা হলো। চেয়ারম্যান

নভ্রাপাড়া পৌরসভা

Newspaper: The Daily Loksamaj

Date: September 14, 2007

নওয়াপাড়া পৌরসভার মাস্টার প্লানের ওপর কর্মশালা

নওয়াপাড়া সংবাদদাতা॥ নওয়াপাড়া পৌর উন্নয়নে 'নগর পরিচালন ও অবকাঠামো উন্তিকরণ' প্রকল্পের আওতায় নওয়াপাড়া পৌরসভার মান্টার প্রান প্রণয়নে বৃহপ্রতিবার সভা হয়েছে। বৃইকরায় অনুষ্ঠিত সভায় সভাপতিত করেন কমিশনার ফারুক হোসেন। অন্যানোর মধ্যে বক্তা করেন টাউন প্রানার তানভীর আহমেদ, কমিশনার শিরিনা বেগুম; মোজফ্র হোসেন ও আকরাম হাওলাদার প্রমুখ। সভায় সড়ক, বিজ নির্মাণ, টার্মিনাল, জেন, পানি সরবরাহ, বর্জা ব্যবস্থাপনা, সড়ক বাতি, বিদ্যুৎ, টোলফোন, পাবলিক টয়লেট, কমিউনিট্ সেন্টার, পৌর মার্কেট, শিশু পার্ক, কবরস্তান, শাশান সৌলর্থবৃদ্ধি ইত্যাদি অগ্রাধিকার দেয়ার প্রভাব করা হয়। টাউন প্রানার মহিরুল ইন্লাম্য প্রভাব করা হয়। টাউন প্রানার মহিরুল ইন্লাম্য প্রভাব করা হয়। টাউন প্রানার মহিরুল ইন্লাম্য

Newspaper: The Daily Spandar

Date: September 15, 2007

নওয়াপাড়া পৌরসভার মাস্টার প্রান প্রস্তুতকরণে ওয়ার্ড পর্যায়ের কর্মশালা অনুষ্ঠিত

নপ্রয়াপাড়া (যশোর) সংবাদদাতা

গত ১১ সেল্টেম্বর এডিবি ও বাংলাদেশ সরকারের আর্থিক সহযোগিতায় বাস্তবায়িত "নগর পরিচালন ও অবকাঠামো উন্নতিকরণ প্রকল্প" এর আওতায় নওয়াপাড়া পৌরসভার মাস্টার পুরান প্রণয়নের জন্য জনগণের অংশগ্রহণ নিশ্চিতকরণের লক্ষ্যে ওয়ার্ড পর্যারে ভয়ার্কশপ ৫ নং ভয়ার্ড কমিটির সদস্যদের উপস্থিতিতে জগবাবুর মোড়ে অনুষ্ঠিত হয়। ওয়ার্কশপে সভাপতিত্ব করেন ওয়ার্ড কমিশনার ফারুক হোসেন। ওয়ার্কশপের মাধ্যমে ওয়ার্ডে রাস্তা, বিজ, টার্মিনাল, জেন, পানি সরবরাহ, বর্জা ব্যবস্থাপনা, সড়ক বাতি, বিদ্যুৎ, টেলিফোন, পাবলিক টয়লেট, কমিউনিটি সেন্টার, পৌর মার্কেট, আবাসিক এলাকা, শিত পার্ক, কবরস্থান/শাশান ঘাট, শহর বর্ষিতকরণ প্রভৃতি বিষয়ে অগ্রাধিকার ভিত্তিতে মাস্টার প্নানে অন্তর্ভুক্তির জন্য আলোচনা হয়। কর্মশালায় উপস্থিত ছিলেন মহিলা কমিশনার শিবিনা বেগম, মহিকল ইসলাম, মোজাফ্ফর হোসেন, তানভীর আহমেদ ও বালী আকরাম হোসেন।

Newspaper: The Daily Prothom Alo

Date: September 16, 2007

নওয়াপাড়ায় চাল আমদানির হিড়িক

भागून वालम्, क्रांशनगढ (१८५४)

যাকারের অভয়নার উপত্যেলার নর্ব্যাপান্তর আফানিকরেরেরা চারত থেকে ব্যাপক হারে চাল আফানি করছে। বেলের র্যাপন র উক্তে রাতিনিন পার পার টিন আফানি করা চাল ন বর্ধাপান্ত্র আফারে। সরকার সম্প্রতিবেদরার আফানিকারেকদের করে বেকে চাল কোনা ব্যাপা করের পার চাল আফানি করের বিভিক্ত পায় ।।

ন্ধকারি ক্রমণ্ডনার উপপেটা কমিটি গছ ১৬ আগাই এক বৈঠকে ছানীয়া ন্ধপাত্রর বাধায়ে ৪৮ যালায় নি চাল কেবার নিছার পো। বৈঠক পেলে আই উপপেটা সাংবাদিকদের বলেছিলেন, আমনানিকারকেরা ভারত থেকে চাল আমনানি করবে এবং সকলার ভা কেবিকানি এর টাকা ৯৯ পালা গেকে ২৫ টাকা ১৬ পালার মানা কিলে পের। আর এই চালা

স্বাক্তির কর্মান্ত মানুশ করা হবে। ।

থেপের পঞ্চিপ-পশ্চিমাঞ্চল হলের

পরতেরে বড় রাজার নবরাপাড়ার
আনদানিকারকারের কান্তেন, পরকারি কই
যোগপার পর নতরাপাড়ার হল আনদানিকারকারের মধ্যে তারত থেকে চল আনদানিকারকারের মধ্যে তারত থেকে চল আনদানিকারকারের মধ্যে তারত থেকে চল আনদানিক কর্পনার (এপনি) গোলার জন্ম রাজ্যারের হিন্তিক পরে মার। প্রমান্তের, শৃই
কর্মারাপ্রমান্ত ইবিনারের মর্পনার হতে রেগের
ভাগান্তের মাধ্যমে এবা প্রেনার্থনার ভ্রমানর
হতে ট্রাকের মধ্যে আনদানি করা চালের শৃই
ভূতীরাপে নতরাপাল্যক এবে প্রেনারের।

্বাথনানিকারী প্রতিষ্ঠান পের প্রমানের স্কর্যাধকারী রাফিকুল ইনলাম বলেন, 'আমি আনত থেকে ৩৩ হাজার ৩৪০ মেট্রিক টল যাল আনদানির অগপত দুরোই। আনার রেপির তাপ রাল নওয়াপায়ার এনে পৌছেরে। অবশিই রাল বুর প্রাক্ত এনে পৌছারে। তিনি আরও বলেন, 'রাল যেতাকে আনদানি হক্ষে, আতে ঘার্টিত হতবার কোনো আপত্তা নেই।'

অংকানিকারী প্রতিষ্ঠান অন্তুক্তার ট্রেডার্থ এবরে চাল আনদানি করেছে ৪০ হাজার মেট্রিক টন : প্রতিষ্ঠানটির স্কৃত্যাকরী অনিকা মন্তুক্তার অভিযোগ করেন, ভারতের পুরোচনা কালান নিয়েল জানতে নাধা হাজা, একে চাল পড়ে মাজে এবা বৃট্লিকে ভিকমে। নালায়েশে বলা বার কর্তাশাকর করে ভাগো ভাগোনো জনা আবদন কংগ্রেলান, বিদ্ধ তারা কোনো কর্পপাত করেনি। বিনি আদন, নির্বাহিত নামে আমদানি করা হলে সংকারের কামে বিক্রি করা হবে।

আন্তেট ট্রেডিং করপেরেশন এবার ভারত থেকে লগ আনদানি করেছে ১৫ বাজার মেট্রিক টন। এই আনদানিকারী প্রতিষ্ঠানটির অন্যতম হয়বিকারী আনিসুর প্রমান বলেন, 'সরবার প্রতি টন লগ এক জগরে দরপারের মাধানে কিনে নেরবার ঘোলা দেওলার ভারতের বানগারিকা চাবের শান কড়িয়ে দিয়েছে। আনবা বেশি দামে চল কিনেছি। গাভ ক্রেমন একটা হবে লা।'



गनवानावारा आवन त्याक वाचा नगारवाबावे क्रिक बामारमव घटनकाव

Appendix - J

Photograph taken during field visit



TCLL Meeting for MIDP



Ward Committee Meeting for MIDP



TPU Monthly Meeting



Paura Bhaban



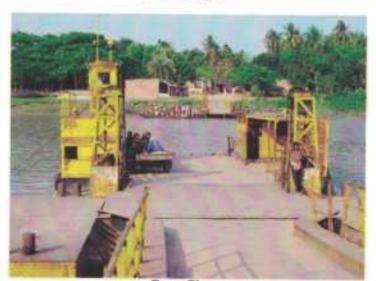
Pir Bari Mosque



Gajipur Hujur Bari



Paura Eidgah



Ferry Ghat



Paura Graveyard



Paura Mile Post



Proposed Dumping Site



Pauro Narrow Road



Amdanga Khal



Bhairab River



Nowapara Rail Station

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